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ECONOMIC AFFAIRS

No. 891



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ANNUAL MEETING OF ECONOMICS DEPARTMENT OF USSR ACADEMY OF SCIENCES

Moscow EKONOMIKA I MATEMATICHESKIYE METODY in Russian No 4, Jul-Aug 79
pp 812-817

/Article by N. A. Balashova: "The Annual General Meeting of the Economics Department of the USSR Academy of Sciences"

/Text/ The Annual General Meeting of the Economics Department of the USSR Academy of Sciences was held on 12 March 1979.

Academician N. P. Fedorenko, academician secretary of the department gave a report on its work in 1978 and the immediate tasks of the development of economics. All the work of the scientific institutions of the Economics Department, he said, was performed on the basis of the measures adopted by the general meeting of the department in 1976 on implementing the decisions of the 25th CPSU Congress in the field of economics. The research was concentrated primarily on solving the following most important problems: the development of the economy of developed socialism into a communist economy, the planned management of the national economy, the increase of the efficiency of socialist production, the world socialist system, the developing countries, the economic and political problems of modern capitalism and the criticism of modern anticommunist theories.

The theoretical study of the political economy of socialism remains at the center of attention. The first version of the materials for a major work on the political economy of socialism has already been prepared at the Institute of Economics of the USSR Academy of Sciences. It is necessary to expedite the work on completing it, since it is of great importance for the study of theoretical problems of the development of the socialist economy. A number of monographs, which generalize the many years of experience of the comprehensive study of the political economy and economic history of socialism, were published in 1978. The work on preparing a work on the principles of the optimum planning and management of the national economy, as well as in the field of the theory of the optimum functioning of the socialist economy, is being continued at the Central Institute of Economic Mathematics. Important research is being performed on the economy of the countries of the socialist community at the present stage, the economic integration of the

CEMA countries (Institute of Economics of the World Socialist System), the economics and politics of the capitalist world and the developing countries (Institute of World Economics and International Relations, Institute of the United States of America and Canada and others).

Some gains in the concentration of efforts on comprehensive research were made, its planning was improved somewhat; the multiplicity of themes and the duplication of themes were reduced, although, unfortunately, not eliminated; the responsibility for the fulfillment of the plans was increased. The contacts between the institutes of the USSR Academy of Sciences and the academies of the union republics, as well as the institutes of the ministries and departments and VUZ's, were consolidated. Creative cooperation between economists and the representatives of other social, natural and technical sciences and the coordination of their activity are being developed. The discussion of the most important questions of theory was stepped up on the pages of the journals of the department, in its scientific councils and in the academic councils of the institutes. Consequently, there have been definite improvements in all the directions outlined by the department after the 25th congress.

A special place in all this work belongs to the economics scholars of the department, who are engaged in the preparation of the Comprehensive Program of Scientific and Technical Progress and Its Socio-Economic Consequences for the Future and the drafting of proposals on the improvement of the planning and management of the national economy. As is known, the overall supervision was carried out by the Scientific Council for Problems of Scientific, Technical and Socio-Economic Forecasting. Work was performed in 25 directions by 25 specially created commissions of the USSR Academy of Sciences and the State Committee for Science and Technology. Among them were 10 commissions for socio-economic problems. While supervising all the socio-economic aspects of the development of the Comprehensive Program, the bureau of the department repeatedly discussed the materials drawn up by the commissions, as well as participated in the work of the technical commissions. A consolidated document was prepared on the basis of these materials.

It is already possible to speak about the completion of an important stage of the many years of work of the scientists and specialists of various fields of knowledge and practical work, which promote the scientific substantiation of the long-range scientific, technical and socio-economic policy of the party and the state.

The experience of drafting the Comprehensive Program enabled the speaker to single out three groups of problems which have a direct bearing on the prospects of the scientific research of the institutes of the Economics Department both in the next few years and for 1981-1985.

First of all, there is the substantiation of the means of the all-round intensification of social production on the basis of the acceleration of scientific and technical progress and the implementation of the appropriate

social and economic policy. Here theoretical and applied research are closely interconnected, it is necessary precisely in this area to consolidate henceforth the contacts with planning and economic organs. Our country has entered the stage of its socio-economic development, where the achieved scale of production and, at the same time, the growing restrictions in the expansion of manpower and material resources are making it necessary to convert to a new, primarily intensive type of socialist expanded reproduction. It is the economists who should substantiate in theory and vindicate in practice the ways of making this transition.

It is a matter of the factors of the more rapid growth of labor productivity than during the 10th Five-Year Plan, especially in the regions of the country with a shortage of labor, of the possibilities of converting from a capital-intensive to a capital-saving type of expanded reproduction, of a sharp reduction of the expenditures of fuel and metal per unit of finished products and of the elimination of losses in the national economy.

It is obvious that for a detailed scientific analysis of these problems the theory of socialist expanded reproduction should be developed more actively and the laws of the development of real socialism should be perceived more thoroughly and specifically. It is necessary to develop reliable theoretical principles of structural policy, the rapid reorganization of the production system and the structure of production under the conditions of the acceleration of scientific and technical progress and the maintenance of the overall balanced, optimum development of the economy.

It is also necessary to link the study of the national economic aspects of the intensification of production with the main specific directions of the acceleration of scientific and technical progress. For this it is necessary first of all to expand the study of the problems of developing the agro-industrial, fuel and power complexes of the country and investment processes. Our country is faced with tasks of enormous complexity and historical importance--to solve effectively the food problem, not to allow a scarcity of energy resources, to extend the investment potentials of the economy and to overcome the lag in the development of the infrastructure.

The elaboration of these questions requires the combining of the theory of socialist expanded reproduction, the methods of economic analysis and forecasting and the national economic and sectorial approaches. In other words, the performance of comprehensive scientific research, which covers theory, concrete economic analysis, economic-mathematical modeling, computer equipment and, what is especially important, the obtaining on this basis of recommendations useful in practice, is necessary.

Second, the Comprehensive Program showed once again the need to study the socialist way of life. Here it is necessary to ensure the interconnections of all the main directions of the increase of the national well-being. This concerns, in particular: the change of the nature and conditions of labor under the influence of the scientific and technical revolution; the improvement of the stimuli of high-quality, skilled, conscientious labor; the quest

for the rational combination of the forms of wages (piece-rate, time-rate, job contract and others); the substantiation of the possibilities of bringing the standards of living of the urban and rural population closer together; the rationalization of consumption, the elaboration of standards of consumption of various social groups; the combination of the different forms of the realization of the law of distribution according to labor with its social factors (the eradication of need, the public support of children and so forth); the especially thorough substantiation under present conditions of the policy of retail prices in interconnection with the problems of rationalizing consumption and the task of completely meeting the effective demand.

The laws of the reproduction of the educational and skill potential of manpower resources and the health of the population not only as a demographic factor, but also as one of the decisive social goals of the development of our society should be without fail the basis for the study of the questions of the socialist way of life. Special attention must be devoted to ecological problems, which include the rational use of nature, scientific and technical progress, the conditions of work and everyday life. The comprehensive approach is also necessary here.

Third, the tasks of improving the system of management and planning of the entire economic mechanism is among the main directions of the further research of the institutes of the Economics Department.

At a meeting with the voters of the Bauman District of Moscow Comrade L. I. Brezhnev recalled once again that the party sees a way to overcome the majority of unresolved problems and shortcomings in our national economy in the increase of the efficiency and quality of work. Not only objective circumstances, but also the need to overcome the inertia in planning, the methods of management and, perhaps what is the most important thing, in economic thought are decisive here. There is no doubt that what has been said also applies as a whole to economics scholars. This is their duty--to offer the national economy methods of planning and management, which would take fully into account the new conditions and new tasks. "Now there is no matter more important than the careful, most rational utilization of all our potentials and wealth," Comrade L. I. Brezhnev said. "New approaches in the policy of capital investments and many spheres of technical policy, the good use of available capacities and manpower resources and the overcoming of departmental and localistic biases are required for this. Some reorganization of planning and the methods of management, in the system of indicators and material stimulation is also required for this. And no matter how complicated this reorganization is, we cannot do without it."

The improvement of the economic mechanism serves as a condition of the solution of scientific, technical and socio-economic tasks. In this connection there is proposed in the Comprehensive Program:

the practical implementation in all sectors of the national economy of the principle of planning and evaluating economic activity according to the end

results, the conversion to program-goal methods, the transformation of five-year plans in practice into the main form of the system of plans of the economic and social development of the country;

the improvement of the organizational structure of management along the line of setting up organs for the management of intersectorial programs, extending the rights and liability of ministries, reducing the number of stages in management and consolidating industrial associations;

the introduction of complete cost accounting at production associations and, as a consequence, the reduction of the proportion of budget financing, the expansion of credit extension and self-financing in capital construction and a number of other spheres of economic activity, the introduction of the principle of charging a fee for the use of limited production resources--manpower, water and land resources, minerals, the extension of the rights and liability of associations--the main cost accounting units of the socialist economy;

the performance of large-scale economic and organizational experiments for the purposes of substantiating new, more effective methods of managing, planning and stimulating scientific and technical progress; the formation in each sector of main scientific production associations, which specify the direction of scientific and technical progress, develop and introduce in production advance technology and experimental models;

the intensification of the development and the more extensive use of mathematical methods and computers for solving the problems of optimizing the planning and functioning of all the links of the national economy--from the local links to the country as a whole.

The need has arisen to draft a special program for the further improvement of the socialist economic mechanism with the distinction of the subsequent stages of its realization.

In the work on the Comprehensive Program, in which the collectives of hundreds of scientific research institutes and VUZ's took part, the workers of union and republic departments and economists of the USSR Academy of Sciences and other scientific institutions played an important role, especially in the area of it, which concerns socio-economic problems.

The speaker stressed that the integral combination of various fields of knowledge--economics, sociology, law, the technical and natural sciences--is a characteristic trait for which the Comprehensive Program of Scientific and Technical Progress and Its Socio-Economic Consequences is notable. This is the realization of the direct instructions of the 25th CPSU Congress on the need to consolidate the unity of the social, technical and natural sciences.

The work on the Comprehensive Program is to be continued. Taking into account the fact that at present our planning and managerial organs are

engaged in drafting the 11th Five-Year Plan, it is necessary to do everything so that the scientific results obtained during the drafting of the Comprehensive Program would be reflected fully enough in it.

The speaker then dwelt on the recently issued statutes on the methods of optimizing the development and location of production. The collectives of the Institute of Economics and the Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences, the Council for the Study of Productive Forces of USSR Gosplan and the Central Institute of Economic Mathematics worked in close cooperation in the preparation of this important document. The statutes on methods will unquestionably play an important role in improving long-range sectorial planning and will consolidate the great amount of experience which has already been gained in this area in our country.

The methods of determining the efficiency in the national economy of new equipment, inventions and rationalization proposals, which were drawn up by the Central Institute of Economic Mathematics, the Institute of Economics of the USSR Academy of Sciences, VUZ's and various departmental institutes, were published in 1977. On the basis of these methods during the past year in all sectors of industry the drafting of instructions on the evaluation of the economic efficiency of new equipment was launched and the means of calculating the efficiency with allowance for the specific nature of individual sectors were clarified. A methods advisory center for drawing up sectorial methods and instructions was organized at the Central Institute of Economic Mathematics. At present more than 50 such documents have been approved. This is creating a qualitatively new situation in the economic evaluation of new equipment, since at present in most sectors this evaluation is already being organized on the basis of uniform methodological and methods principles.

Methods recommendations on determining the economic estimate of the harm done by environmental pollution and the economic efficiency of nature conservation measures were also drawn up in 1978.

Along with problems of a strategic long-term nature life is facing economists with many such problems which require effective intervention.

Whereas strategic decisions usually involve profound structural rearrangements in the national economy, major capital expenditures, scientific and technical developments and so on, tactical decisions, as a rule, are of an organizational and economic nature. It includes the reorganization of the existing administrative structures, the implementation of the necessary economic stimuli, plan indicators and others. They lead to the search for and commitment to the national economic turnover of untapped reserves.

Let us take, for example, the question of urgent steps on improving capital construction. It is natural that the main work in this area should be closely connected with the five-year plan and the long-range future. However, the possibility of solving a number of problems without delay

exists. It is necessary to improve the procedure of stimulating economically and evaluating the work of construction workers and designers, which at present incites them not to decrease, but to increase the cost of projects. In order to create sufficient stimuli for the introduction of the system of delivering the products of construction "under key," a number of modifications of the Belorussian experiment are proposed, in particular, the differentiation of the prices for the finished products of construction depending on the observance of the construction deadlines of projects is being introduced.

Accordingly, the conversion to new indicators of the evaluation of products in machine building should be organized: products should be considered sold only when they have been delivered, installed and put into operation at full capacity and with the observance of all the qualitative and economic indicators stipulated by the designs, estimates and orders. A number of studies and experiments have to be made in order to find the best forms of the implementation of the indicated proposals.

Much needs to be done in the area of improving the economic mechanism in the system of the agro-industrial complex. In a report at the July (1978) CPSU Central Committee Plenum Comrade L. I. Brezhnev said that the profound changes which have occurred in agriculture in past years "...objectively require the further improvement of the economic mechanism. This concerns the questions of planning, stimulation, the consolidation of cost accounting, the improvement of the interrelations of all the sectors constituting the agro-industrial complex."

Economists also have an opportunity to propose steps on solving such problems as the housing problem, the satisfaction of the effective demand, manpower resources and so on.

Guided by the stated considerations, the bureau of the department has organized seven working commissions made up of economics scholars, entrusting them with the elaboration of priority measures for solving important and urgent questions of the socio-economic development of the country, which have been raised in recent times by the plena of the party Central Committee, General Secretary of the CPSU Central Committee and Chairman of the Presidium of the USSR Supreme Soviet Comrade L. I. Brezhnev. The following tasks were singled out: the improvement of the structure of capital investments; the improvement of capital construction; the development of machine building; the improvement of the economic mechanism in the system of the agro-industrial complex; the meeting of the effective demand of the population; the solution of the housing problem; the training and utilization of manpower resources. The commissions have already prepared scientific reports. Although it has not yet been possible to obtain an answer to all the raised questions, there are very useful and effective recommendations.

The economics scholars of the republic academies of sciences could substantially increase their contribution to the cause of building socialism in the republics and the country as a whole. Unfortunately, there are two

extremes in their work. The first is the repeated duplication in the study of the general problems of the political economy of socialism, which leads to the direct waste of efforts and material resources and at times degenerates into unscientific attempts to develop "local" political economy. The second is the descriptiveness, the replacement of theoretical research by a set of specific examples and illustrations. In this connection it is necessary to return once again to the question of the scientific specialization of the republic and regional institutes of economics and their branches and the coordination of their scientific activity with each other and with other institutes of the Economics Department. The speaker singled out several possible directions of scientific research, which correspond most to their specialization and potentials: socio-economic research of demographic processes, questions of the training and migration of manpower, its more efficient use; the rational use of nature and ecology; regional aspects of scientific and technical progress; the formation and development of major territorial production complexes (for example, the cotton complex of Central Asia, the zone of the Baykal-Amur Main Rail Line and so forth); the social development of individual regions, which are connected both with the specific nature of the demographic conditions and with the peculiarities of historical development and national differences. The study of these problems makes it possible to coordinate the fundamental nature of the approach integrally with the great practical, social significance of the obtained results.

After describing in detail the work of the scholars of international affairs during the past year, Academician N. P. Fedorenko dwelt especially on the scientific organizational activity of the Economics Department and, in particular, on the question of publishing economics literature. The speaker noted that in fulfilling the decisions of the 25th CPSU Congress and the subsequent plena of the CPSU Central Committee the central publishing houses had published many works on economics themes, but it is impossible to accept the fact that at some of them the number of titles, the average size and the number of copies of scientific publications printed are decreasing and that the participation of scientific institutions in the selection and preparation of this literature is mainly of a sporadic nature.

The speaker named as one of the main tasks of the department the formulation and coordination of the drafts of the plan of scientific research in the field of economics for the 11th Five-Year Plan. Guided by the decisions of the July and November CPSU Central Committee Plena and on the basis of statewide tasks, it is necessary to single out the most important economic problems, on which scholars will work during 1981-1985. The scientific councils of the department can and should give much assistance in organizing and coordinating the planned research. They are in fact called upon to become scientific coordinating centers for the planning of joint research and to extend the practice of scientific cooperation between the scientific institutions of the academies of sciences of the USSR and the union republics with the institutes, ministries, departments and VUZ's of the country. At the same time the institutes of the department, the economic institutions of the Siberian Department of the USSR Academy of Sciences, the scientific

centers, branches and institutes of economics of the academies of sciences of the union republics need to complete the work on refining the plans of scientific research work for the remaining two years of the current five-year plan.

Academician A. M. Rumyantsev (chairman of the Scientific Council of the USSR Academy of Sciences for the Complex Problem "Economic Competition of the Two Systems"), who took part in the debate, said that there is every reason to recognize the work of the Economics Department and its bureau during the past year as satisfactory. Academician A. M. Rumyantsev dwelt especially on the need for the close link of each specific economic study with general political economic theory. Political economy should keep a step ahead of our economic construction, because the task of studying thoroughly the communist mode of production is now arising.

M. I. Sladkovskiy (Institute of the Far East of the USSR Academy of Sciences), having approved of the department report, dwelt in detail on questions of the economic policy of China.

Corresponding Member of the USSR Academy of Sciences Yu. T. Bogomolov (Institute of Economics of the World Socialist System) noted that the need to step up and enrich the study of the economics of socialism requires a more and more attentive attitude toward the experience of all the socialist states. He examined, in particular, the experience of the GDR in organizing industrial management (the creation of combines) and Hungary in the area of agricultural production (the methods of its industrial management), as well as various CEMA member countries in studying the problem of the imbalance of economic development. Extending the idea of Academician A. M. Rumyantsev, Yu. T. Bogomolov emphasized that it is a matter not of dealing only with categories, but of reviving the original meaning of political economy as a science which equips practical work and creates the basis for making economic decisions.

V. P. Mozhin (Central Scientific Research Institute of Economics attached to RSFSR Gosplan) devoted his speech to the link of economic science with practical work and to the cooperation of the academic institutes and RSFSR Gosplan. He pointed out that the tasks of economics, which were clearly formulated in the accountability report, fully apply not only to the academic institutes, but also to the institutes of the system of Gosplan. The Central Scientific Research Institute of Economics attached to RSFSR Gosplan, along with the institutions of the Economics Department of the USSR Academy of Sciences, the Siberian Department, the Far Eastern and Ural centers, is carrying out according to a unified program research efforts which are connected with the prospect of developing individual territories of the republic.

Recalling the words of Comrade L. I. Brezhnev at the meeting with the voters of the Bauman Voting District of the capital about the fact that "only the reasonable combination of the sectorial and territorial principles can ensure efficient management," V. P. Mozhin noted that the sectorial principles

are, unfortunately, often predominant and in a number of instances the lack of a comprehensive approach to territorial research is felt. This situation must be overcome by joint efforts. On behalf of the collegium of RSFSR Gosplan V. P. Mozhin expressed gratitude to the institutes of the Economics Department and the branches of the USSR Academy of Sciences, which are taking part in the joint work, as well as the hope that the contacts of this type would be consolidated.

After hearing and discussing the accountability report of Academician N. P. Fedorenko, academician secretary of the Economics Department of the USSR Academy of Sciences, the Annual General Meeting approved the results of the scientific research work of the economic institutions and the scientific organizational activity of the department during 1978. In the decree special attention is devoted to the need to ensure the unconditional fulfillment of the plans of scientific research for 1976-1980 by all the economic institutions of the USSR Academy of Sciences, as well as to the preparation of a thoroughly substantiated draft of the plan of scientific research during 1981-1985. The five-year plan should reflect the solutions of fundamental theoretical problems of economics, the most important national economic problems, the conditions for the acceleration of the growth rate of the economy and the successful fulfillment of the 11th Five-Year Plan of USSR economic and social development.

The institutes and scientific institutions of the department have been ordered to continue the intensive elaboration of the most important basic problems for the period 1976-1990 according to the following comprehensive programs: "Economic Problems of Developed Socialism and the Laws of Its Development into Communism"; "The Improvement of the Planning and Management of the National Economy"; "Regional Economics and the Regional Socio-Economic Development of the USSR for the Future up to 2000"; "The Formation and Development of Major National Economic and Territorial Production Complexes"; "The Comprehensive Program of Research on Problems of Demography"; "The Laws of the Development of the World Socialist Economy, the Problems of Socialist Economic Integration and the Development of Long-Term Economic Ties of the USSR With the Socialist Countries"; "The Laws and Trends of Development of the Economy of the Capitalist and Developing Countries and the World Capitalist Economy, the Problems of the Foreign Economic Ties of the Soviet Union With Other Countries."

It is being recommended to the collective of authors to take steps to expedite the work on basic theoretical works: "Ekonomicheskiy stroy sotsializma" [The Economic System of Socialism], "Mirovoye sotsialisticheskoye khozyaystvo (voprosy politicheskoy ekonomii)" [The World Socialist Economy (Problems of Political Economy)], "Osnovy teorii mezhdunarodnykh otnosheniy" [Fundamentals of the Theory of International Relations], "Osnovy sistemy optimal'nogo planirovaniya i upravleniya sotsialisticheskoy ekonomikoy" [Principles of the System of the Optimum Planning and Management of the Socialist Economy].

The decree stresses the need to continue the work on the Comprehensive Program of Scientific and Technical Progress and Its Socio-Economic Consequences in the forthcoming period and to complete the preparation of recommendations on solving urgent national economic problems, including recommendations of the improvement of the economic mechanism.

In conformity with the materials of the July (1978) CPSU Central Committee Plenum it is proposed to devote more attention to research and the substantiation of the ways of further developing the agro-industrial complex of the country and improving the links of agriculture with other sectors of the national economy.

Scholars have to step up the criticism, reveal the scientific unsoundness and class essence of bourgeois, reformist, revisionist and hegemonist concepts in the area of economics and politics, which are aimed against real socialism, and develop and defend Marxist-Leninist doctrine.

The journals of the department are ordered to devote particular attention to the need to increase the scientific and technical level and practical significance of publications, to hold discussions on urgent problems of economics and improve the content of published reviews of literature on questions of economics.

After the discussion of the report of the department bureau the report of Corresponding Member of the USSR Academy of Sciences G. M. Sorokin, "The First Five-Year Plan and the Development of the Theory of Socialist Planning," was heard and organizational questions were examined.

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CENTRALIZED ENTERPRISE MANAGEMENT DISCUSSED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No. 7, July 1979 pp 66-75.

[Article by G. A. Kulagin: "Centralized Management Plus the Initiative of Enterprises"]

[Text] Article 15 of the USSR Constitution states the necessity for combining centralized management with the independence and initiative of enterprises, associations, and other organizations. It is impossible to overestimate the importance of compliance with this principle for a further improvement of our economic mechanism and for the development of the entire Soviet economy.

Only centralized institutions which carry out the management of the economy can be the basic expressors of public and state interest in a socialist society. They have the responsibility for making up long-term plans for the development of the country's productive forces on a scientific basis, for planning basic science and major applied scientific programs, determining optimal assignments for the production of output and the creation of new equipment, and for ensuring a balance between current production plans.

At the same time, the realization of scheduled plans and the efficient use of resources depend, first of all, upon an exact fulfillment of the assignments of central agencies. For this reason, at the current stage of the socialization of production a certain isolation and managerial independence for enterprises is objectively necessary, and the new Constitution makes this question very clear. Another very important task which the central managerial agencies have to accomplish also follows from this. The methods of managing, organizing, planning, and evaluating the work of enterprises and associations which are worked out and established by them have to correspond both to the public interests which are reflected in assignments and plans and to the interests of enterprises and the personal interests of the workers of every production collective.

As is shown by the facts, the existing organizational structures and system of indicators cannot promote a maximum increase in production efficiency.

There are certain discrepancies and sometimes direct contradictions between state interests which are reflected in plans and norms and the cost accounting interests of enterprises. As has already been frequently noted, the evaluation of the work of an enterprise now depends not upon an increase in production efficiency, but almost exclusively upon the percentage of the fulfillment of the planning indicators which have been established for it. For this reason, an enterprise is economically not interested in intense plans. The piece worker has no interest in increasing his output norms, engineering and technical workers have no interest in expanding the range of their duties, and so forth.

No less characteristic is the fact that only the current work of an enterprise is covered by cost accounting. It is in fact freed from the responsibility for the development of its own means of production. In most cases, the reconstruction and expansion of operating enterprises is carried out not on the basis of bank credit which is paid off from the results of an enterprise's work, but on the basis of non-repayable state capital investments, which does not promote their economical and efficient use. This circumstance, in our view, is one of the chief reasons for a decrease in return on capital. According to the data of the USSR Central Statistical Administration, during the 8th Five-Year Plan the growth in national income began for the first time to lag behind the growth of fixed capital. During the 9th Five-Year Plan this tendency became even stronger: national income increased by 31 percent, while productive capital increased by 50 percent.

To this day there is an organizational, legal, and cost accounting lack of unity between the institutions which are engaged in applied research and experimental designing work and the enterprises which introduce this into production. The financing of this work is performed primarily from centralized sources. This decreases the responsibility of both the development workers and the enterprises for the mastery schedules and economic efficiency of new equipment and is seriously hindering the fulfillment of the demands of the 25th CPSU Congress regarding a decrease in the cost of new machines per unit of useful effect. Unfortunately, as is known, a substantial amount of our current machine tools, turbines, tractors, and many other machines is relatively more expensive than the old models.

And, finally, it has to be noted that despite the "Regulations" on the socialist enterprise and production association which have been approved by the government and which quite clearly define the relationships between enterprises and superior managerial agencies, to this day an unlimited interference by the latter in the current work of enterprises after all planning assignments have been approved is still practiced. This kind of practice decreases the responsibility of superior agencies for the high quality development of plans, promotes the concealment by enterprises of their reserve, hinders their clear specialization, and engenders a tendency toward the development of enterprises according to the principle of "natural economy."

To a large extent this explains the existence in our country of a "second" and "third" machine building, that is, of their own production of machine tools and other machines in non-machine building ministries and an excessive development of repair services at every enterprise. Around one-half of our metal-working equipment is in operation in non-machine building branches where it, naturally, is far from fully used.

In order to intensify and increase the efficiency of production it is necessary first of all, in our opinion, to strictly limit the rights and duties of managerial agencies and cost accounting enterprises (associations). And not simply limit, but firmly and legally regulate the rights of every organization which participates in the economic process and greatly strengthen cost accounting principles at all levels.

The widespread opinion that a strengthening of the cost accounting independence of enterprises will inevitably give rise to a weakening of centralized management and, on the contrary, that a strengthening of centralized management will lead to a weakening of the independence of enterprises is valid neither from a theoretical nor from a practical point of view. Every level has its own special tasks: in the central agencies they have a strategic character, and at enterprises they have a tactical character.

Superior managerial agencies have the task above all of establishing stable, long-term, and internally consistent rules of operation for enterprises and of giving them assignments and evaluating their fulfillment. Enterprises are obliged to ensure the fulfillment of these assignments with maximum economic effect. "Simply speaking," Comrade L. I. Brezhnev said at the 25th Party Congress, "the essence of organizational questions consists of everyone who has the necessary rights for this and within these rights bears full responsibility engaging in his own work. This elementary everyday rule is at the same time the very basis of the science and practice of management.

The solution of this, from our point of view, central problem of improving the system of managing the Soviet economy begins with the complete and correct execution of the instructions of the CC CPSU and Council of Ministers regarding the creation of production and scientific-production associations and the transference to their management of research and designing organizations which work on concrete development projects. The slightest manifestations of formalism are dangerous here. Yet, it is not a secret that recently many associations have been created by means of simply renaming large enterprises or mechanically uniting heterogeneous organizations.

In our opinion, an association becomes an association only when, as is demanded by the "Regulation," the structural subdivisions which have become a part of it lose their legal and managerial independence. Life also demands a rejection of the unwise and economically invalid practice

in which for the sake of a formal improvement of certain indicators, the designing and scientific research subdivisions of enterprises and associations are put into a so-called non-industrial group. This practice does not lead to anything good.

I also think that associations will only fully reveal their potentialities and justify the hopes which are being placed upon them if they are transferred to full cost accounting, including their own financing of the development of their own means of production and of all of the work connected with the designing and mastery of new output. The isolation of scientific research institutes and designing bureaus which are engaged in concrete technical development work from the demands of production must also be overcome.

One can argue for a long time about the system of indicators and about what is better for evaluating the work results of enterprises, but it must not be forgotten that they depend upon what prices are like.

The author fully realizes the difficulties which lie in the way of a solution of the price problem. But he is convinced that this solution cannot be avoided and that it is the exclusive and a very important derogative precisely of the central managerial agencies.

What has to be done from a practical point of view in order to increase discipline in price setting?

As is known, under socialism expenditures of live and embodied labor per unit of consumer value have to constantly decrease. With respect to new equipment, this basic rule is unambiguously confirmed by the "Basic Directions for the Development of the USSR Economy for 1976-1980" which demand a decrease in the cost of new machines, apparatuses, and instruments per unit of capacity (productivity). The present price setting methodology of the USSR State Committee for Prices and the methodology for determining the economic efficiency of new equipment which was approved in 1977 follow from this principle. Recently criticisms of these methodologies have been heard from certain economists. There is no question that they can and must be improved. The problem is not in their individual shortcomings, but in the quite frequent deviations from the rules prescribed by them in practice. For this reason, it is essential to thoroughly rigidify state, strictly centralized, and absolutely extra-departmental control over prices.

Such measures would quickly kill the desire of certain managers to create the well-being of their enterprises by means of manipulating prices.

It would be advisable to keep a strict watch on a careful validation of any increase in ceiling prices which were approved at the time of the development of technical assignments for a new product and on the use of

so-called "temporary" and "staged" prices for new products. Very often loopholes are sought out here for raising prices for new machinery far beyond the limits justified by the economic effect from their use. This kind of procedure would compel both development workers and new equipment producers to take a more responsible approach.

An increase in price discipline will make it possible to review the present insufficiently effective procedure of forming enterprise and association incentives funds. It would be useful, in our opinion, to make their size depend upon an increase in the amount and efficiency of production compared to the preceding period. Arguments are no longer arising about the fact that the basis for evaluating the work of an enterprise is, first, its fulfillment of its products list plan and, second, an increase in production efficiency compared to the preceding period. With respect to the products list plan and compliance with the contracts which have been concluded on its basis, everything is clear. As for production efficiency, the most generalized and reliable means of measuring it, on condition that there is strict control over prices, is undoubtedly profits.

For this reason, in our opinion, the role of the products-list plan and of profits in evaluating the work of an enterprise has to be sharply increased, while the role of the remaining indicators has to be decreased, with most of them transferred to the category of estimated indicators.

There also has to be a reorganization of the entire "technique" of material stimulation for enterprise collectives. It is very important for it to be as simple and understandable as possible not only for the specialists of economic services, but for every member of a collective. In our view, it would be advisable to divide the entire gross profits received by an enterprise first into two parts: that part which is subject to transfer to the state budget and other centralized funds, and net profits. It should remain at the full disposal of the enterprise. The proportion or the size of each of these two parts should be determined on the basis of a strict scale approved for a group of homogeneous enterprises or for each individual enterprise for a long period of time--a minimum of five years. This scale has to have the force of law and under no pretext must it be "corrected" so as to equally discipline both the enterprise and the managerial agency.

The net profits which are put at the disposal of a cost accounting association (enterprise) have to be used to create non-transferable long-term financial reserves and to form incentives funds. These reserves should be used, first, to pay fines and penalties for or poor quality output connected with contracts. As has been rightly noted in the press, the payment of fines from one's own "earned" funds, and not from the "free remnant" of profits (which under any circumstances and in any amounts is transferred to the budget and, consequently, is actually not connected with the interests of an enterprise) will sharply increase the responsibility of an enterprise for the fulfillment of its contract commitments.

After the payment of fines, these same reserves have to be used to replenish the circulating capital of an enterprise and to cover inevitable losses connected with unsuccessful development work with new output. In this way, a stop will be put to the existing practice of shifting such losses to consumers by means of increasing the transfer prices for new output.

The remaining part of net profits should be assigned in accordance with previously established proportions: to cover expenditures for the development and mastery of new output (in keeping with approved plans); for capital investments for the development of the enterprise itself and its social and personnel institutions and also to pay off bank credit which has previously been received for these purposes; and to form a collective's material incentives funds and increase the wages of workers.

In this way, the amount of the incentives funds and the satisfaction of the material interest of enterprise collectives will depend directly upon the fulfillment of the state plan for products list and of commitments to consumers and upon an increase in the efficiency of social production.

It has to be especially emphasized that an enterprise's financial aids will by no means fall out of general economic circulation. Since they will be accumulated in the enterprise's bank accounts, they can be assigned through the system of bank credit for "work" at any sector of the economy.

In order to ensure the planned process of expanded reproduction and the punctual renewal of the means of labor, in addition to the above-mentioned part of profits, it would be advisable to leave for the enterprise's disposal, in contrast to the existing rules, all (or almost all) depreciation allowances. Although this measure will formally decrease receipts into the budget, it will fully correspond to the instruction of the 25th Party Congress that "material and financial resources have to, in the first place, be assigned for the reequipping and reconstruction of operating enterprises." With this kind of procedure enterprise leaders will be fully responsible not only for the fulfillment of a current program, but also for the maintenance of the state enterprise entrusted to them at the proper technical level. Moreover, the losses to the budget will only be seeming losses, since now also enterprises receive budget appropriations but sometimes expend them extravagantly insofar as these funds are "gifts" for them and the chief concern of a leader in this respect is to "use capital investments" in time so that they are not "wasted." In addition, if operating enterprises purchase equipment with their own funds an extremely necessary "feedback" will occur which will prevent the economically unwarranted increasing of prices by the producers of this equipment.

In our opinion, the procedure being proposed here will compel association leaders to be thrifty with monies and to master newly created capacities more rapidly and fully. And budget appropriations will be assigned exclusively for the creation of new enterprises and the development of the economy's infrastructure.

Only the most general contours of a rational combination of centralized management and enterprise independence are mapped out above. The development of a concrete system of indicators regulating the relationships between managerial agencies and the primary cost accounting element of the economy is a difficult task which, of course, cannot be accomplished within the framework of a magazine article. However, it seems that the rights and duties of superior agencies with respect to a developed and operating enterprise (association) can consist of the following:

the definition of an enterprise's profile and specialization;

the approval of annual and five-year plans for the products list of output produced (including new equipment) and the support of these plans with allocations for material and technical supplies and with orders for the sale of finished output;

the approval of prices for all output;

the establishment of long-term rules for the distribution of the profits obtained by an enterprise;

the issuance of permits for the series and mass production of new products developed by an enterprise;

the provision of the funds for the equipment and the ceilings for the construction needed by an enterprise for planned development and reconstruction;

the evaluation and auditing of an enterprise's work by annual work results;

the appointment and replacement of enterprise leaders.

Disputes between cost accounting partners should be resolved, in our opinion, only by interdepartmental arbitration agencies on a strictly legal basis relating to contract rights and be accompanied by irreversable material sanctions.

I believe that the above-enumerated rights of managerial agencies are quite sufficient for them to competently manage the work of subordinate enterprises. At the same time, the qualified limitation of these rights being proposed will improve the quality of work and the responsibility of managerial agencies and, as the party has pointed out, will free the upper

echelons of management from minor issues and permit them to concentrate their attention on the solution of major national economic problems. And there are very many problems which can and must be solved only in a centralized manner: the planning of science, the realization of overall scientific and technical programs, the development of new regions, the construction and establishment of new enterprises, an improvement of infrastructures, price setting, the development with trade unions of a uniform policy in the field of labor and wages, and many others.

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STATE INSURANCE EXPANSION URGED

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[Article by L. A. Motylev, chief of the Main Administration for USSR Gosstrakh, member of the Collegium of the USSR Ministry of Finance, doctor of economic sciences: "Improve and Develop State Insurance"]

[Text] In the 10th Five-Year Plan the workers of the state insurance organs, guided by the resolutions of the 25th CPSU Congress and the subsequent Central Committee party plenums, are taking measures toward the further improvement and development of state personal and property insurance and toward the fulfillment and overfulfillment of the plans and socialist obligations. In 1976-1978, 24.1 billion rubles of payments were received for all types of insurance, including 16.3 billion rubles for voluntary insurance among the population. The average yearly increase in the payments was 675.3 million rubles, of which 578 million rubles were for voluntary insurance; 1.3 billion rubles were received above the plan.

In the third year of the 10th Five-Year Plan the insurance worker collectives fulfilled the year's plan for obtaining payments on the whole for the country by 103.7 percent, including fulfillment by 103 percent for voluntary types of insurance for the population. The total amount of payments received reached 8720.4 million rubles, of which 6025 million rubles were for voluntary insurance among the population. The increase in payments received for voluntary types of insurance alone, as compared with 1977, was 591 million rubles. On 1 January 1979, on the whole for the country, there were 138.9 million contracts for voluntary insurance, including 54.8 million for life insurance, 28 million for accident insurance and 56.2 million contracts for property insurance.

The best results in fulfilling the plans and social obligations were achieved by the Gosstrakh organs of the Russian Federation and the Ukrainian, Belorussian, Uzbek, Kazakh, Moldavian, Lithuanian, Latvian, Kirgiz, Armenian and Estonian SSR's. The total to the account of the obligations was 217.3 million rubles received above the plan, with the obligations being 180 million rubles.

The workers of the state insurance organs are solving the problems posed for them in the fourth year of the 10th Five-Year Plan in an atmosphere of great political and labor upsurge. In 1979, for all types of insurance, 10.8 billion rubles of payments should be received, and taking into account the obligations taken on--11 billion rubles. In order to fulfill both these assignments and the five-year plan as a whole, a great deal must be done--there must be a constant improvement in the style and methods of work at each section, shortcomings must be eliminated and maximum use must be made of the potentials and advanced experience of the best agents, inspectors and collectives.

Above all, an end must be put to the considerable lagging behind in the development of voluntary types of insurance in a number of union republics, oblasts and cities. In the last three years of the 10th Five-Year Plan as a whole for the country the level of development of voluntary types of insurance rose somewhat. For example, the workers' life insurance coverage rose from 36.5 percent in 1975 to 45.8 percent at the beginning of 1979, for buildings--from 30 to 36.6 percent, for personal property--from 24.4 to 31.1 percent, for cattle--from 50 to 57.8 percent and for means of transport--from 10 to 15.7 percent.

At the same time, at many insurance organs the indicators are considerably lower than the average and there is lagging behind that is in no way justified. Life insurance is poorly developed in the Uzbek (20.9%), Georgian (20.1%), Azerbaijan (17.4%), Tadzhik (17.9%) and Turkmen (16%) SSR's. Lagging behind is also observed in a number of union republics with respect to many other types of voluntary insurance.

There is an uneven development of insurance in the RSFSR, where the average indicators could be improved through eliminating the lagging behind in a number of oblasts and rayons. While in Kirovskaya, Murmanskaya and Kostromskaya oblasts the workers' life insurance coverage is 70 percent, in Tambovskaya Oblast, and the Checheno-Ingush and Dagestan ASSR's it is from 23 to 36 percent. For accident insurance in Kirovskaya and Pskovskaya oblasts the coverage reaches 38 percent, but in Orlovskaya and Astrakhanskaya oblasts and the Kalmyk ASSR it varies from 14 to 17 percent. The fluctuations in the level of development of personal insurance in some oblasts of the Ukraine, Belorussia, Uzbekistan, Kazakhstan and other union republics are substantial.

An analysis of the development of personal and property insurance shows convincingly that the lagging behind can and should be eliminated with the aid of advanced forms and methods of carrying out the insurance, particularly at plants, factories, kolkhoses and sovkholes. Practical experience shows that it is due to these methods that lagging behind was eliminated for many types of insurance in some oblasts and rayons of the RSFSR, and the Ukrainian, Kazakh, Kirgiz and Armenian SSR's. This work should be continued persistently. Working with no lagging behind means a considerable rise in the overall results, and not only through the quantity, but

also the quality of service for the workers. In his speech at the CPSU Central Committee November (1978) Plenum, Comrade L. I. Brezhnev said: "We need businesslike initiatives, actually coming from the heart of the masses, able to kindle the fire, to inspire millions of people. One of them is working without any people lagging behind. These are the initiatives that must be disseminated."

The main potential for further development of state insurance is guaranteeing unconditional fulfillment of the plan by each agent and all the brigades, inspectorates and administrations of state insurance. In 1978 and the first quarter of 1979 many insurance organs, due to lax work, failed to cope with the plans for certain types of voluntary and compulsory insurance; last year 144 inspectorates, or 3.3 percent, failed to fulfill the plans for receipt of payments.

There is an unsatisfactory situation in the insurance organs of the Tadzhik, Turkmen and Azerbaijan union republics. For example, in the Turkmen SSR in 1978 the plan for four types of insurance was not fulfilled. The inspectorates in the city of Ashkhabad did particularly poor work. They fulfilled the year's plan for life insurance by only 87.4 percent, for accident insurance--by 62.7 percent, and for personal property--by 91.1 percent. The inspectorate of Leninskiy Rayon in Ashkhabad did not fulfill the plan for five types of insurance, and of Proletarskiy Rayon--for two, and Sovetskiy Rayon--for three types. The results of 1978 were discussed in detail at meetings of the collegiums of the USSR and Turkmen SSR ministries of Finance. As a result, potentials were sought in the republic and the fulfillment of the plan for the first quarter for all types of insurance was guaranteed. From now on the Main Administration of Turkmeniya Gosstrakh must also pay greater attention to organizing this work.

The organs of the Azerbaijan and Tadzhik SSR Gosstrakh did extremely uneven work last year. Many inspectorates quarter after quarter failed to fulfill the plan for receipt of payments for individual types of personal and property insurance. Moreover, even in the first quarter of 1979, on the whole for the Tadzhik SSR the plan for life insurance, accident insurance and personal property insurance was not fulfilled. The situation is no better in the Azerbaijan SSR: accident insurance and transport insurance lagged behind.

To analyze the reasons for the nonfulfillment of the plans of these republics, we will compile a table: [table on following page]

From the data presented it follows that in January the work was not satisfactorily organized, which led to obviously rushed work. Right now the plans are very stepped-up, and to fulfill them there must be conscientious work from the first days of the quarter, which can be convincingly seen from the example of the best insurance organs.

(1) (в % к плану)

Поступило платежей (2) Виды страхования (3)	(4) Таджикская ССР			(5) Азербайджанская ССР		
	(5) январь	(6) март	(7) за первый квартал	(5) январь	(6) март	(7) за первый квартал
Смешанное страхование жизни (9)	28,3	38,2	96,4	—	—	—
Страхование: (10)						
от несчастных случаев (11)	16,6	50,4	96,3	18,7	47,6	96,1
средств транспорта (12)	—	—	—	17,9	44,2	92,9
домашнего имущества (13)	17,9	48,6	98,8	—	—	—

Key:

1. (In % of plan)
2. Payments received
3. Types of insurance
4. Tadzhik SSR
5. January
6. March
7. For first quarter
8. Azerbaijan SSR
9. Miscellaneous life insurance
10. Insurance:
11. Accident
12. Transportation
13. Personal property

(1) (в % к плану)

Поступило платежей (2) Виды страхования (3)	(4) РСФСР			(8) Украинская ССР		
	(5) январь	(6) март	(7) за первый квартал	(5) январь	(6) март	(7) за первый квартал
Смешанное страхование жизни (9)	32,7	34,7	101,3	32,7	34,6	101,2
Страхование: (10)						
от несчастных случаев (11)	32,2	34,4	103,2	34,4	31,8	102,6
домашнего имущества (12)	30,6	35,8	103,6	34,0	29,6	101,8

Key:

1. (In % of plan)
2. Payments received
3. Types of insurance
4. RSFSR
5. January
6. March
7. For first quarter
8. Ukrainian SSR
9. Miscellaneous life insurance
10. Insurance:
11. Accident
12. Personal property

Regularity is a major potential for the development of insurance and raising the quality of the workers' service. Correct planning also plays an important role. There has been repeated discussion in seminars and conferences on the need to improve it, and also on what must be done to put order into this matter. Facts show, however, that some directors of insurance organs still have not eliminated the shortcomings in the planning. For example, the Gosstrakh inspectorate for the city of Temirtau in Karagandinskaya Oblast was 11 days late in providing the brigade of agents with the plan for receiving the insurance payments; the plans for the first and second quarters of 1978 were received 10 days later from the inspectorates of Sosnovskiy and Kransoarmeyskiy rayons in Chelyabinskaya Oblast. Cases of flagrant violations of the procedure for planning were revealed in the Uzbek SSR, where some administrations and inspectorates established the assignments without proper economic substantiation, and were up to 29 days late in providing the agents with them.

In a number of cases the oblast Gosstrakh administrations get the quarterly plans for receiving the payments for individual types of insurance to the inspectorates with sums that are lower than those actually obtained in analogous quarters of the past year. Cases of this sort have been established in the Turkmen and Georgian SSR and a number of RSFSR oblasts.

At the CPSU Central Committee November (1978) Plenum, Comrade L. I. Brezhnev said: "The real turn toward efficiency, as we see it, begins with the planning.... The actual content of the planning should be raised to a qualitatively new level." When following these instructions, the directors of the insurance organs must take effective measures to eliminate the shortcomings and arrange affairs so that the planning of insurance operations is an efficient means of mobilizing the workers to seek potentials and achieve new milestones in developing insurance.

There are substantial unutilized potentials in property insurance, and if they are realized, this will be an important potential for the further development of insurance and mobilization of resources. In some regions of the Belorussian, Turkmen, Tadzhik and other union republics, there is consistent failure to fulfill the assignments for the yearly reassessment of structures at 25 percent of the citizens' farms in the rural areas. As a result, the organs of Gosstrakh every year are short by considerable sums in obtaining insurance payments from the population, and if these structures are destroyed or damaged, misunderstandings and conflicts arise because of their incorrect assessment. For example, in the Tadzhik SSR there are 32,400 structures that are assessed for an 8-18-year prescription, which is not in accordance with the actual situation.

In a number of union republics (RSFSR, Kazakh SSR and others), the Gosstrakh organs have not achieved a full accounting of the horticultural houses constructed by the citizens on land parcels allocated for collective orchards and gardens. For example, in the city of Alma-Ata and in Aktyubinskaya, Turgayskaya, Ural'skaya and Tselinogradskaya oblasts, 40 percent of these structures were not recorded, and on the whole for the Kazakh SSR--25 percent.

There continue to be cases of incorrect granting of exemptions to individual farms of the citizens for payments of compulsory salary insurance, of illegal write-off of arrears and poor organization of work on prompt and complete collection of the payments. For example, the inspectorate for Garmskiy Rayon in the Tadzhik SSR granted exemptions to 338 farms, amounting to 2,742 rubles, without their being investigated and a decision made by the rayispolkom. While as a whole for the country the arrears for payments of compulsory property tax of the citizens at the end of 1978 was 0.2 percent, in the Tadzhik SSR it was 2 percent, and in the Azerbaijan SSR--1.1 percent. Sizeable sums were turned into arrears in the Uzbek and Turkmen SSR's.

In a number of republics there is poor accounting of the animals for compulsory insurance. For example, in Moldavia in just 10 rayons, over 2,000 animals of insurance age were not registered in the farm books. Analogous cases were also established in a number of rayons in the RSFSR. Cases of gross violation of the legislation in insuring animals were recorded in the Georgian SSR. The practice of selective insurance of animals has not been overcome, which is categorically forbidden by the existing regulations; the formal documents on dead animals are compiled and submitted to the inspectorate in violation of the deadlines.

A substantial potential for developing insurance is the universal broadscale development of operations in accordance with a new type of personal insurance --marriage insurance. Two and a half years have passed since it was put into effect. During this time the workers have concluded 2.3 million contracts for 1.8 billion rubles. If one takes into consideration the fact that the payments for marriage insurance are implemented on the average every 13 years, it becomes clear what large sums may be accumulated and how important it is to pay constant attention to this promising form of insurance. In the insurance organs of the RSFSR, Ukraine, Lithuania and Kirgiz SSR's, marriage insurance is becoming increasingly popular, and the growth rates of the number of contracts are not being reduced. This cannot be said of republics such as the Uzbek, Moldavian, Latvian, Armenian and Turkmenian. Many of the inspectorates so far have virtually not even begun the development of the new type of insurance.

The development of insurance is connected not only with the increase in the number of contracts, but also to a considerable extent with an increase in the average insurance amount per contract. Every year the well-being of the Soviet people grows, wages rise, and at the same time the potentials for insuring property, life and health for higher insurance sums. The work quality of the insurance agent, inspectorate and Gosstrakh administration is now determined not only by the number of newly concluded and renewed insurance contracts, but also by the amount of the average insurance sum and the increase in provision of insurance.

It should be noted that this topic is by no means paid the proper attention everywhere. As a result, insurance coverage in a number of oblasts and union republics is low and does not correspond to the actual potentials of

the workers, which ultimately has an adverse effect on the development of insurance. For example, while the average insurance amount for personal property insurance in the RSFSR is 2,771 rubles, in the Kazakh SSR it is 2,418 rubles, but in the Ukrainian, Belorussian, Kirgia and Turkmen union republics--it is about 1,400 rubles, or lower by almost half. Means of transport in the RSFSR, Kazakh, Lithuanian and Latvian SST's were insured for 2,000 rubles on the average, but in the Uzbek, Georgian, Azerbaijan and Armenian SSR's--for 500-700 rubles. In the RSFSR, Belorussia, Kazakhstan, Lithuania, Latvia and Estonia, the accident insurance for the citizens averages about 1,000 rubles, and in the Armenian and Azerbaijan SSR's--500 rubles. All of this indicates the great unutilized potentials for further development of insurance in many regions of the country.

Successful fulfillment of the tasks posed, development of insurance and an improvement in service for those insured is directly dependent on the state of mass-organizational work, widescale development of socialist competition and putting advanced experience into practice. The insurance organs have accumulated a wealth of experience in holding various forms of socialist competition and measures to publicize state insurance. In the insurance system there are many collectives that can serve as an example of remarkable work organization and that constantly seek and are the first to introduce the best forms and methods of work, and come forth as initiators in developing competition to achieve high indicators in developing the insurance business and in service for those insured.

As an example of a well-coordinated collective, we may cite the Gosstrakh Administration and insurance organs in Kirovskaya Oblast, which rightfully occupy one of the first places with respect to the development of insurance and good standard of service for the workers, and are the initiators of many valuable movements, having become a school of advanced experience. They are among the first of those working without any people lagging behind. For a long time now in the oblast there have been no inspectorates and insurance agent brigades lagging behind. The quarterly plans at all the inspectorates are fulfilled not only on the whole for the brigade, but also for each agent. I. S. Noskov, chief of the administration, deserves great credit for these achievements. His organizational abilities, love for his work and skill in inspiring the workers and inculcating in them a sense of duty to the collective have raised the prestige of the Gosstrakh organs in Kirovskaya Oblast.

The insurance workers in Kaluzhskaya Oblast (N. D. Novikov, chief of the administration), are doing remarkably well. Suffice to say that according to the results of the All-Union Socialist Competition of Financial and Insurance Organs, they were awarded the Red Challenge Banner four times. All the collectives in the oblast's inspectorates work harmoniously, and there are no workers lagging behind among them.

The Gosstrakh organs of Ivanovskaya Oblast (G. I. Lipatov, chief of the administration) achieved high results. Here all the agents have been working for several years now using the brigade method with equal wages. They work with good coordination, and every quarter take on socialist obligations for the collection of above-plan payments and an increase in contracts for voluntary insurance and, as a rule, they fulfill them successfully. There are no brigades lagging behind in the inspectorates.

Considerable progress has been achieved by the Gosstrakh organs in Zaporozhskaya Oblast (G. K. Belash, chief of the administration), Donetskaya Oblast (P. S. Kudinov), Dnepropetrovskaya Oblast (L. D. Yakimenko), Krymskaya Oblast (V. A. Rybin), Mogilevskaya Oblast (S. P. Yankevich) and many others.

Last year the insurance organs worked for further improvement and development of various forms of competition. At the same time, particular attention was paid to developing its highest form--the movement toward a communist attitude toward work. At present 507 collectives have been awarded the honorary title of "Collective of Communist Labor," and about 58,300 insurance workers--the title of "Shockworker of Communist Labor."

The scope and efficiency of socialist competition in many ways depends on how quickly the achievements of one collective become the property of the others. The work done in this direction by the Gosstrakh organs in the last few years has been somewhat revitalized. There has been a considerable increase in the issuing of brochures, posters and other printed materials that tell of the achievements of the outstanding collectives, innovators in the insurance business and shockworkers of communist labor.

The insurance organs of the RSFSR and the main administrations of the Ukrainian SSR and Belorussian SSR are devoting a great deal of attention to this. Just recently in the RSFSR the work experience of the outstanding collectives of 433 inspectorates, 794 inspectors, over 2,900 insurance agents and 1,500 insurance agent brigades was summarized and disseminated. The establishing, at the Gosstrakh Administration of Dnepropetrovskaya Oblast, of a council to introduce advanced forms and methods of organizing insurance work is worthy of attention. Its functions include working out proposals directed toward improving work to develop voluntary types of insurance, the introduction of advanced forms and methods of work and the summarizing and dissemination of the outstanding experience of the best collectives and individual insurance workers.

As is known, the Gosstrakh organs are greatly assisted by society, and particularly the councils for assistance. On the whole for the country over 115,000 such councils have now been established, bringing together 455,000 actively engaged in public life, and more and more of them are coming into being. This indicates the growth of their prestige and popularity among the workers. Their work must always be the object of unremitting attention and their labor must be evaluated and rewarded for

merit. Competitive reviews of insurance work must be held more often right at the enterprises, organizations and rural and settlement soviets and competition be developed among the councils for assistance for achievement of the best indicators in developing voluntary types of insurance among the population and for awarding the title of "Best Council of Assistance for Gosstrakh," and the results of the competition should be summed up regularly and its victors given incentive.

Every year the volume of operations for state insurance increases. Under these conditions, converting insurance information to machine processing is becoming exceptionally important. It should be mentioned that in the last few years a great deal has been done. For example, on 1 January 1979 the information of 1,469 inspectorates had been converted to machine processing, which is 25.8 percent of the total amount, including 1,072 inspectorates, or 18.8 percent, to punchcard computers and 396 inspectorates, or 6.9 percent, to electronic computers. The number of personal accounts converted to machine processing has reached 23.8 million, or 43.4 percent of the total number, and of them, 16.8 million use punchcard computers (30.6 percent), and 7 million--electronic computers (12.8 percent).

Insurance organs in the RSFSR and Belorussian, Uzbek and Lithuanian SSR's are doing well in fulfilling the plan for converting information to machine processing. This work is being set up in the Latvian and Kirgiz SSR's. The Gosstrakh organs in the Ukrainian, Georgian and Azerbaijan SSR's are lagging behind somewhat.

The information from inspectorates in Kaluzhskaya, Kamchatskaya, Kostromskaya, Sakhalinskaya and Magadanskaya oblasts, the Komi ASSR and the cities of Ivanovo, Murmansk, Penza, Tomsk and Petrozavodsk is being completely processed on electronic computers. Good results have been achieved by insurance organs in the Buryat ASSR and Kemerovskaya, Novosibirskaya, Chitinskaya and Orlovskaya oblasts.

Along with the use of computation centers of the USSR Central Statistical Administration system, insurance information is processed at computation centers of the ministries of Finance of the Estonian, Belorussian, Lithuanian and Moldavian SSR's, as well as at the computation center of the Gosstrakh Administration for Gor'kovskaya Oblast, which is equipped with a YeS 1022 computer. Processing has begun at the information and computation centers in the Ukrainian and Georgian SSR's. Conversion of insurance operations to machine processing is being implemented in accordance with a plan drawn up by the Main Administration of USSR Gosstrakh in conjunction with the Main Administration of Computation Work of the USSR Central Statistical Administration. The directors of the insurance organs must be very persistent in carrying out measures to convert the inspectorates to mechanized accounting, using the experience accumulated by the Gosstrakh organs in Belorussia, Lithuania, the RSFSR and Estonia.

The state insurance organs come into contact with millions of citizens every day. An attentive and sympathetic attitude toward the workers' questions and prompt examination of their letters and applications is an extremely important duty of each worker, and particularly the directors of the inspectorates and administrations of state insurance. It should be noted that due to the measures adopted, the work dealing with the letters, applications and complaints of the workers has improved recently, fewer complaints have been coming in and the periods for examining the claims are being shortened. On the basis of an analysis of the suggestions of workers, a number of additions and changes have been introduced into the existing instructions and regulations.

Along with this, there are also shortcomings--cases of incorrect refusals to pay insurance sums and insurance compensations, of red tape and bureaucracy are permitted. There are still grave shortcomings in carrying out the medical insurance expert examinations. From this come errors in determining the percent of the insured person's loss of general work capacity and justified complaints. For example, the complaint of citizen Utugulov arose only because, when putting in order the documents that gave a basis for determining a 65-percent disability for him, the Gosstrakh Administration for Alma-Atinskaya Oblast issued him 5 percent of the insurance sum and asked for additional documents that were not necessary. The unsatisfactorily performed examination of citizen Izvest'yev resulted in the fact that the Gosstrakh Administration for Primorskiy Kray paid him 30 percent of the insurance sum instead of 50 percent. Red tape in examining the application of citizen Alaniya was permitted by the Main Administration of the Georgian Gosstrakh. Only after the intervention of the Main Administration of USSR Gosstrakh was the insured paid 35 percent of the insurance sum connected with the injury sustained by her.

There are cases when, through the fault of the insurance workers, the property insurance contracts are not promptly renewed for the new period, which also causes justified dissatisfaction. For example, citizen Piskunov repeatedly appealed to the inspectorate for Kochenevskiy Rayon in Novosibirskaya Oblast with a request to send him an agent to renew the contract for personal property insurance for the new period. It took over seven months to satisfy his legitimate request.

Often individual workers, due to poor knowledge of the regulations and instructions for property insurance, incorrectly refuse to pay compensation. For example, the inspectorate for Vil'nyusskiy Rayon in the Lithuanian SSR illegally refused to pay insurance compensation to citizen Zakaryavichen for a dead cow, which brought forth a justified complaint to the editorial board of KREST'YANSKAYA GAZETA. The complaint was complied with four months after the day of the first appeal for payment. Citizen Shevtsovaya's (Permskaya Oblast) payment of insurance compensation for a house that had burned down was also illegally refused. The payment was made only after complaints to the Main Administration of USSR Gosstrakh.

The complaints and applications, as well as the reviews and verifications indicate that not yet all the directors of the insurance organs are taking measures to increase the role of the legal service in guaranteeing socialist legal order. Some insurants and workers at the Gosstrakh organs have to try to vindicate their lawful rights through higher organs and people's courts. There are frequent cases of incorrect dismissal of workers and unlawful imposing of disciplinary penalties on them. Specifically, last year cases of this sort were permitted by insurance organs in Tadzhikistan, Uzbekistan, Kirgiziya and Azerbaijan.

The chiefs of the inspectorates and administrations of state insurance should intensify supervision of the promptness and correctness of examining the letters, applications and complaints of the workers and hold persons permitting cases of bureaucracy and red tape strictly responsible.

An extremely important task of the state insurance organs is prompt and correct implementation of all measures connected with introducing property insurance for sovkhoses, in accordance with the decisions of the CPSU Central Committee July (1978) Plenum. Beginning with 1 January 1979 the harvest of agricultural crops, animals, buildings, structures and other property of sovkhoses was insured for a sum of over 133 billion rubles. The calculation of insurance payments has been completed everywhere, and the staffs of insurance workers for both the inspectorates and for the state insurance administrations have been selected and trained.

The main thing now is daily monitoring of the correctness of carrying out the insurance at the sovkhoses and in verifying the execution of all the directives and instructions. Together with the organs of the ministries of agriculture, all the work involved in eliminating financial losses must be carried out in exemplary fashion, using the experience of the property insurance of the kolkhoses, and the insurance compensation be paid promptly, in strict accordance with the existing legislation.

Successful fulfillment of the tasks set for the insurance organs is integrally tied to the need for a constant improvement in working with personnel, improving the selection, placement and training of the workers, raising their business skills and widescale development of creative initiative and activeness. The main administrations of the union republic Gosstrakh and the directors of the administrations and inspectorates have intensified attention to this work in the last few years. As a result, the staff of personnel has improved. Good results were achieved in building up a staff of specialists at the insurance organs in the Ukrainian, Georgian, Armenian, Belorussian and Moldavian union republics, where they constitute 80-90 per cent of the total number. Measures are being taken to improve the skills of the personnel of the insurance organs. Notice should be taken of the improvement in this work in the insurance organs of the RSFSR, Ukrainian, Kazakh, Latvian, Kirgiz, Armenian and a number of other union republics.

Certification of the workers in the Gosstrakh organs of the RSFSR, Kazakh, Georgian, Moldavian, Tadzhik, Lithuanian and Latvian union republics is being carried out in accordance with the experience of the insurance organs of the Ukrainian and Kirgiz SSR's. This work should be continued and improved in the future as well, and where no certification has been made, the potentials for carrying it out should be learned. Greater attention must be paid to training young workers, assisting them, improving their skills and drawing the collectives into public life. Tutorship plays an important role here. Some 18,597 tutors of young people have been approved in the insurance organs, and they are sponsors of 22,089 young workers. This necessary movement must be supported to the utmost.

The directors of the insurance organs must take measures toward further improvement in the personnel work, pay greater attention to problems of the correct selection of personnel and placement, training and improvement of their skills, systematically implement measures contributing to the growth of political consciousness and business skills and instill in each insurance worker a feeling of love and pride for his vocation.

This year the USSR Main Administration of State Insurance, in conjunction with the Scientific Research Institute of Finance of the USSR Ministry of Finance, is doing a great deal of scientific research work in order to determine the most promising directions for the further development of insurance work. In conjunction with the main administrations of the union republic Gosstrakh, proposals are being prepared on introducing new and improving existing types of personal and property insurance. The conditions for insuring means of transport are being improved, the amount of responsibility of the Gosstrakh organs is being expanded and provision is being made for introducing a new combined type of insurance for means of transport. Plans are being prepared for introducing public liability insurance for the owners of motor vehicle transport and for changing the compulsory insurance for structures belonging to the citizens, certain provisions for life insurance, accident and personal property insurance and other types of state insurance. All this work pursues the same goal--making insurance more popular in our country, and more fully meeting the workers' needs.

The goals of the insurance organs in 1979 are stepped-up and crucial. Along with introducing property insurance for sovkhozes, a set of measures should be carried out for considerable further development of all types of personal and property insurance. These problems should be the focus of attention of the directors and community of each collective.

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EFFECTIVENESS OF SCIENTIFIC, TECHNICAL PROGRESS

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[Article by Doctor of Economic Sciences V. Pokrovskiy, chief of a department of the State Committee for Science and Technology: "Control of the Effectiveness of Scientific and Technical Progress"]

[Text] The problem of controlling the effectiveness of scientific and technical progress is of a systemic, complex nature, which appears especially vividly at the present stage of development of the national economy. Now there is needed no longer a set of individual measures on increasing the effectiveness of scientific and technical progress, but an orderly system of measures, in which the strategic and tactical directions and the methods of increasing it would be clearly distinguished. The strategic directions are reflected in the factors of the increase of effectiveness and are constantly in effect. In contrast to them, the tactical directions are incorporated in the specific structure of the mechanism for controlling the effectiveness of scientific and technical progress.

Let us examine in more detail the main factors of the increase of the effectiveness of scientific and technical progress and some of the legal aspects connected with them. Among these factors are:

the obligatoriness to substantiate the directions of development of science and technology and their accurate selection;

the use of the methods of program-goal planning;

the concentration of financial resources on the achievement of specific goals of scientific and technical progress;

the stimulation of the personnel potential, which is employed in the area of the development of science and technology.

A well-considered /strategy of inquiry/ [in boldface], a careful selection from the entire set of problems of scientific and technical progress, which in principle can be solved, of those which confirm the priority of Soviet science and have a serious influence on the efficiency of social production,

should be the starting point of the solution of the problem of increasing the effectiveness of scientific and technical progress. Here it is necessary to be guided first of all by the satisfaction of quite specific social needs. Therefore, in the overwhelming majority of instances the economy of the total expenditures per unit of work (productivity) of new equipment as compared with the base (the equipment being replaced) is the criterion of choice. Although there can be deviations from the indicated criterion, which are connected, for example, with the need to create better conditions for those operating this equipment or to protect the environment, that is, with the solution of social problems.

The efficiency of new equipment at present is determined during the technical and economic substantiation at the stage of selecting the theme or program for its inclusion in the plan. However, this approach often leads to the oversimplification of the procedure of this evaluation and in the end has the result that the new equipment is much more expensive than its analogs, but is only 20-30 percent more productive.

In our opinion, it would be expedient to consolidate more clearly in the law the responsibility of management organs, which make the decision on starting the development, introduction and use of the new equipment, and to select the scientific and technical developments and new equipment precisely according to the criterion of the reduction of the total expenditures per unit of its operation (productivity). Moreover, it is necessary to organize the extradepartmental study of the technical specifications which have been drawn up for the new equipment. In capitalist countries the appraisal functions only as a means of struggle of companies against economic losses. Under our conditions it should also serve as a means of forming the optimum plan. In this sense it is expedient to fix in the law the obligatoriness to include in the production plan the selected most efficient equipment. The new equipment should be evaluated several times in the process of developing it, for example, by integrated stages of its development.

The question of efficiency as applied to scientific and technical programs should be studied especially carefully. For the new equipment developed as a result of their implementation will determine in the future the technical level of the entire national economy of the country. We believe that the legal regulation of the selection of scientific and technical programs on the basis of already adequately approved models of the appraisal of their relative importance according to the criteria of the national economic urgency, the scale and the economic efficiency of the problems being solved is necessary.

The objective laws of scientific and technical progress under the conditions of the scientific and technical revolution, which are brought about, on the one hand, by the need to direct attention toward the major end results and, on the other, by the increase of the dependence of the achievement of these results on intermediate links and an entire system of intrasectorial and intersectorial ties, makes the extension of the methods of /goal (program)

planning and management/ in boldface natural and logical. Not by chance do the Main Directions of USSR National Economic Development for 1976-1980 indicate: "To utilize the program-goal method more extensively in planning."

In this connection the role of the periodically updated Comprehensive Program of Scientific and Technical Progress and Its Socio-Economic Consequences, which contains the general concept of scientific and technical development and the main directions of the development of science and the re-equipment of the national economy for the future, is increasing significantly. In our opinion, it is necessary to consolidate it legislatively as the most important element of planning on the state level, which constantly supplies the national economic plan with new ideas, on the basis of which the selection of the set of directions of scientific and technical development is made.

The shift to compiling goal plans of scientific and technical development should be made only after determining within the framework of the Comprehensive Program of Scientific and Technical Progress what is necessary in the future for the national economy.

The assurance of the rational combination of sectorial planning and planning according to programs is connected with the drafting and implementation of programs. The use of the program-goal approach will make it possible to improve the drafting of plans and to specify the required resources and their distribution among the developers. However, the problem reduces not so much to the formation of individual goal programs as to the compilation of a master plan of research, development and the introduction of new equipment for the national economy as a whole. In solving it, it is necessary to proceed from the priority nature of the assignments of the scientific and technical programs.

The development of the program-goal methods of planning and the improvement of the organizational structure require the integration of the programs in the system of national economic planning, the specification and redistribution of the tasks, rights and responsibilities of the central administrative organs, ministries, scientific organizations, enterprises and associations. For the purpose of improving the technology of managing intersectorial programs it is expedient to form temporary organs--committees which would monitor and bear the responsibility for the implementation of the adopted programs. Depending on the level of the latter, these committees would be set up in the Council of Ministers of the USSR (the union republic), Gosplan, the State Committee for Science and Technology, the main ministry and so on. They should have the legal rights which would enable them to distribute and redistribute all types of resources among the cop performers.

It seems to us that the status of the supply orders being used in a number of industrial ministries needs to be raised to the national economic level. It is actually a matter of introducing on the national economic level a system of contracts for the fulfillment of the most important assignments on the scientific and technical development of the national economy. Here it

would be expedient to utilize creatively the experience of using the contract system in developing new equipment in the United States, where there are about 100 types of contracts, the work according to which is monitored by governmental bodies (in the governmental bodies 100,000 people, for each of whom there are another 4 inspectors directly at firms, are engaged in checking government orders).

The development of the goal methods of planning and management, which are aimed at the achievement of the end results, should be supported by the increase of the concentration of the capital being spent on the development of science and technology. One of the most effective levers for increasing the efficiency of the labor of workers, which ensure the accelerated introduction of the achievements of science and technology in the national economy, is /financing/ [in boldface].

The financing of jobs should be organized so that resources would be allocated for specific themes, scientific and technical developments and projects, which are aimed at the ultimate national economic results.

The creation of a single fund for the development of science and technology has made it possible, for example, to solve many questions as a result of the concentration of the sources of financing and the means of forming the capital for financing research, development and the introduction of new equipment. Here, however, the planning of the amount of scientific research, experimental design and technological work subject to the volume of sold (commodity, gross) production of the enterprises of the sector (or other sector-wide indicators) seems to us to be inadequately substantiated. In reality the amount of research and development is governed to a considerably greater extent by the prospects of development of the sector, which are elaborated on the basis of scientific and technical forecasting, and by the complexity of the tasks facing the sector, and not by the existing scale of production activity. The expenditures required for the development of science and technology cannot be linked only with the volume of output.

In other words, at the national economic level of management in case of necessity adjustments should be made in the amounts of the expenditures being planned by the sectors for the development of science and technology. To some extent this is already being done by the State Committee for Science and Technology and the USSR Ministry of Finance during the annual formulation of the plan for financing scientific research efforts.

However, the principle of such adjustments and their legal aspect have not yet been specified in any standard documents.

In order to perfect the methods of financing it is expedient to improve the means of substantiating the amounts of expenditures of scientific organizations and enterprises on the development and introduction of new equipment and of distributing them and to step up the financial control over the development of this equipment. Here, in our opinion, the organization of the financing of work on the development of new equipment through a main

organization, which should be made responsible for the correctness of the establishment of the amounts of the expenditures and be given the duty to exercise operational control over the expenditure of financial resources, should become an important direction. The legal status of the main organizations needs to be enhanced accordingly.

It is expedient to give analogous duties to the directors of scientific and technical programs. The directors should have the legal opportunity to make decisions on redistributing the resources allocated for the program on the basis of the evaluation and analysis of the financial expenditures at all stages of the implementation of the program (for example, by means of network methods).

In order to finance the work in accordance to national economic supply orders (contracts), which were discussed above, in our opinion, it would be advisable to form statewide funds for the financing of new equipment under the aegis of an organ responsible for the scientific and technical development of the country. These funds should also include the necessary reserve for financing the development of promising scientific ideas which arise unexpectedly. The Interdepartmental Council for Molecular Biology and Genetics, for example, has gained favorable experience in the centralized distribution of financial capital.

The proper utilization of the great /personnel potential/ [in boldface] in the sphere of the development of science and technology and its stimulation serve as an important lever for increasing the effectiveness of scientific and technical progress.

An analysis shows that the existing wage system in the sphere of science has a number of drawbacks, and the main one is its poor coordination with the effectiveness of the labor of scientists. A time rate plus bonus wage system has been adopted for them, and the salaries are not differentiated enough, which in many instances compels the management of scientific institutions to solve the question of increasing wages by appointing a scientist to an administrative position. But this leads to an increase of the number of small subdivisions. The means for increasing wages through a raise in the amount of up to 30 percent are limited to only 2 percent of the wage fund.

The work practice of scientific research institutes and design bureaus shows that at present there is a certain disagreement of legislation and economic practice in the regulation of the average wage of scientists. The law exempts scientific institutions from planning the average wage. However, such regulation is actually being exercised. This entails very adverse consequences, forcing the managers of scientific research institutes and design bureaus in many instances to keep 4-5 staff workers with a low efficiency (and with a low wage) in order to have an opportunity to pay the appropriate wage to a highly efficient worker. It is time to resolve this issue firmly and unequivocally, ridding science of "superfluous" people.

The individual efficiency of the labor of scientists should be the basis for material stimulation. Here, it seems to us, the legal consolidation of two conditions is necessary. First of all the workers should know beforehand that the achievement of a specific result means the receipt of the corresponding bonus. Moreover, it is necessary to regulate legally the flexibility of the system of material incentives: after the lapse of a specific period the goals of stimulation should be specified on the basis of the analysis of the factors governing the corresponding level of the bonuses and decisions should be made about the intensification or attenuation of some directions of the stimulation in connection with the tasks of the scientific institution for the future period.

A contract wage system of scientists with substantially higher rates, but with the payment, for example, of 50 percent of the total amount only after completion of the work and its appraisal, should be tried out for the purpose of stimulating scientific boldness and risk (especially in the performance of research and initiatory work, which often does not require great expenditures and material and technical resources).

It is well known that a system, at the basis of which are the economic stimulation of the work of scientific organizations and material incentives for its staff members subject to the actual economic impact obtained in the national economy as a result of the use of the new equipment, is being tested in a number of sectors of industry. The analysis of the use of this system showed that on its basis an enhancement of cost accounting principles in the relations between the participants in the process of the development and use of new equipment takes place. It seems that a legislative decision on completing the conversion of the scientific organizations, enterprises and associations of all the industrial sectors of the national economy to such a system of the planning, financing and economic stimulation of the work on new equipment should be made as soon as possible, which will draw together the economic conditions of the functioning of the sectors of the national economy.

The question of the legal consolidation of the economic liability for the development and the use of new equipment is of exceptionally great importance. It seems to us that the organizations performing the work on new equipment should bear the legal and economic responsibility for the parameters of the new equipment, which they have guaranteed, while the user organizations should bear the responsibility for taking advantage of the economic benefits from its timely assimilation and incorporation. The latter is especially important, since on the national economic scale the economic potential of new equipment is far from being taken full advantage of.

The question of the economic liability of the user and performer organizations can be resolved, in our opinion, in the following manner. The amounts of the economic stimulation of the performers should be made dependent on the observance of the parameters (including the economic impact) of the new equipment being developed by them. Here the users can deduct from their

bonus funds the amounts established when planning the work for the payment of bonuses to the performers regardless of the actual extent of utilization of the equipment or new processing method.

It is interesting that in a number of countries there is no stimulation of work on new equipment, but there is only a system of imposing penalties for not fulfilling the assumed obligations. This is possible, of course, only on the condition of the exacting elaboration of the specifications (technological assignments) for the equipment being developed and of the corresponding amounts of the fines. This experience should be analyzed thoroughly and critically as applied to our conditions and, perhaps, used on a trial basis.

The question of losses during the first period of series production needs to be solved. Under the conditions of the extension and intensification of cost accounting methods the unified fund for the development of science and technology is a quite legitimate source for covering all the direct and indirect costs and losses connected with the assimilation and incorporation of new equipment.

In conformity with the prevailing system of economic stimulation of the work on new equipment the scientific institutions receive deductions for the economic stimulation fund from the profits of the industrial enterprises of their sector. This procedure, however, promotes some joining of scientific research institutes and design bureaus for the performance of research and development only of intrasectorial importance. In order to eliminate these shortcomings it is advisable to extend and consolidate in standards the intersectorial transfer of assets for the stimulation of the sectors operating according to this system.

The new equipment developed on the basis of research and development in the overwhelming majority of instances is turned over to industrial enterprises for assimilation and incorporation. However, at present the indicators of the planning and evaluation of the economic activity of enterprises, as well as the prevailing procedure of pricing do not interest the latter enough economically in the assimilation and incorporation of new equipment.

The economic stimulation of enterprises is based on the indicators of their current, and not long-range, activity: the increase of the sales volume of products (the profit), the level of profitability, the labor productivity, the reduction of the production cost.

We believe that a modern understanding of sold production, in which it is necessary to include all types of items of new equipment, including test (experimental) models and jobs, should be consolidated in the law.

It is expedient as an experiment to study the possibility of using at associations such indicators as a modified form of the saleable (gross, commodity) production, which includes the amounts of expenditures on research and development, the results of which are passed beyond the association, and the adjusted expenditures for the entire "research-production" cycle.

Since it is extremely important to increase the influence of associations on the sector, the results of the activity of the sector (subsector) attached to them can also become integral indicators of their work. Among them are the increase of the technical and economic level of production, the technical level of products and items and labor productivity and the increase of the profit.

The orientation of associations toward the solution of the long-range tasks of expediting scientific and technical progress, in our opinion, will be increased substantially, if the evaluation of their activity depends to the maximum extent on such an end result of their work as the increase of the economic impact obtained by the national economy from using the developments and new equipment of the association.

The mechanism of controlling the effectiveness of scientific and technical progress includes such types of levers as organizational and economic levers.

At present various forms of the integration of science and production are a promising direction of the improvement of the organizational levers of controlling the effectiveness of scientific and technical progress in the national economy.

Under the conditions of the activity of industrial associations, at which, as a rule, large-scale scientific and technical centers having within them groups of scientific research institutes, design bureaus and scientific production associations are formed, the competence of the administrations for science and technology in determining the prospects of the technical development of the sector as a whole, in pursuing a uniform technical policy, in increasing the concentration and specialization of the scientific and technical potential, as well as in the practice of organizing the coordination of the structure of the scientific institutions in the scientific production associations with the long-range tasks of the development of the sector should be extended.

It is necessary to make the work on perfecting the organizational structure of the national economy and its individual sectors permanent, having ensured state regulation of the process of integrating science and production. Although the drafting and approval of the general plans of the management of the sectors of industry cover a considerable period of time, they are nevertheless an episode in the activity of the sectors.

The most important component of the implementation of economic levers of controlling the effectiveness of scientific and technical progress is the extension of cost accounting relations in the sphere of science and technology.

The qualitative improvement in this direction depends, in our opinion, on the solution of a set of interrelated problems which are of key importance

for aiming scientific institutions toward the achievement of the end results. It seems that the main thing in this set of problems are the problems of forming a system of economic standards of scientific activity, which includes the use by scientific institutions of the category of working capital, as well as of introducing prices for scientific research, experimental and design operations.

The creation of a standard base is one of the most important conditions for the introduction at scientific research institutes and design bureaus of the principles of cost accounting and their more complete provision with working capital. Here it is necessary to take into account the peculiarities of the structure of working capital in science and, in particular, the minor role of such elements as the finished products in warehouses and in transit and stocks. In connection with the high proportion of wages in the sphere of science (more than 40 percent) it is especially important to elaborate sound norms (standards) of the expenditures of living labor. The standards of working capital in science, in our opinion, should gradually be made stricter, that is, should increase more slowly than the volume of scientific research, experimental and design operations increases. This will be conducive to the acceleration of research and development. For this purpose it is expedient to introduce a fee for scientific research, experimental and design work which has not been turned over.

The development of the cost accounting independence of scientific institutions of sectorial specialization, their provision with working capital and the extension of the use of economic standards in the activity of scientific research institutes and design bureaus are responsible for the natural evolution of the economic levers of the mechanism of the management of science--the introduction of prices for scientific research, experimental and design operations. The estimated cost, which is used in contract practice, can be considered an attempt to form such prices. It also includes, as is known, the economic stimulation funds, which are established as a certain percentage of the economic impact obtained by the user with the introduction of the results of the scientific research, experimental and design operations.

When establishing the price, in our opinion, it seems possible to fulfill the main general methods principles of pricing; in particular, the effectiveness of the use of a product can be easily reflected in the price of scientific research, experimental and design operations, if we proceed not from the average expenditures, but mainly from the national economic impact when the results of the scientific research, experimental and design operations are used. Then the price of the scientific research, experimental and design operations functions no longer as a measure of labor, but as the measure of satisfaction of social needs. The establishment of the price of scientific research, experimental and design operations depending on the obtained national economic impact also ensures the fulfillment of the requirements on its stimulating role. Indeed, the economic situation of the designer begins to depend to the greatest extent on the extent to which he meets the requirements of the user.

The demands on prices as a tool for coordinating the conditions of the production and consumption of a product will be met, in our opinion, if the economically substantiated expenditures on the performance of the entire amount of research and experimental design work up to the receipt of the final result and the profit (impact) from the sale of the latter are taken as a basis. By the economically substantiated expenditures there should be understood the standard expenditures, which are established with allowance for the expenditures on the reproduction of the labor of the scientists and have been adjusted to the actual amount of work agreed to by the client.

The establishment of prices for research and development will enhance the role of economic levers and stimuli in the management of science, will make it possible to use the indicator of the profit more extensively and will increase the responsibility of scientific research institutes and design bureaus for the final indicators of the effectiveness of the scientific research, experimental and design operations. These prices, by performing the functions of both a stimulant and a repressant, will create an effective mechanism for interesting the collectives of scientific institutions in saving all types of resources and expediting the introduction of the results of scientific research, experimental and design operations in the national economy.

In our opinion, it is necessary to analyze in detail the causes of the poor fulfillment of a number of adopted legal norms which regulate the responsibility of scientific organizations, associations and enterprises for the introduction of the achievements of scientific and technical progress. Among these norms, in particular, is the system for stimulating the turning over of scientific and technical achievements, which, in spite of the numerous interpretations of the means of using it, and perhaps owing to this, in practice is ceasing to be used. The same thing can also be said with respect to the discounts for products of an outdated technical level, which were unprofitable not only to the enterprise (association) producing such products (which was also presumed when they were introduced), but also to all other instances (from the ministries and departments to USSR Gosplan inclusively).

There are, of course, other legal problems of expediting the scientific and technical development of the country. Their successful solution, as we have attempted to show in this article, depends on the steps being taken and the decisions being made on the question of controlling the effectiveness of scientific and technical progress.

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PLANNING LONG-RANGE SCIENTIFIC-TECHNICAL DEVELOPMENT

Kiev EKONOMIKA SOVETSKOY UKRAINY in Russian No 6, Jun 79 pp 72-78

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[Text] New and higher requirements arising out of the tasks of intensifying production, raising efficiency and improving the quality of performance, which were advanced for the 10th Five-Year Plan, are being presented to the planning of the development of science and technology in the present stage at all levels of economic activity. It is now a vital necessity to plan scientific-technical progress. First, it is expected to take into account a new requirement which must be met by the system of economic management such as its economic orientation toward the end results and toward indicators of efficiency and quality, and second, to ensure optimum--which means also efficient--rates of development of science and technology, and third, to substantially expand science's contributions to development of the socialist economy.

It is important in this connection to meet the following two interrelated requirements. On the one hand, scientific-technical progress should be aimed at the fullest possible satisfaction of society's needs and should solve the fundamental problems of its socioeconomic development. At the same time, the development of social production must meet to an ever greater degree the demands arising out of the development science and technology. Only if these two conditions are met is it possible, in our opinion, to ensure that state scientific-technical policy has a growing impact on solution of social and economic problems facing our country in the current 5-year period and in the more distant future and, conversely, to enhance the influence which the general problems of economic development have on the formulation of strategy in the field of scientific-technical progress.

Science and technology are developing at a growing pace in our country. For instance, in accordance with the State Plan for Development of the USSR National Economy in the Period 1976-1980 the number of new industrial products to be put into production for the first time will number about 20,000 items (as against 16,500 in the 1971-1975 period). More than 4,000 machines and instruments are now being put into production annually. Society's needs for

up-to-date exemplars of new technology are being satisfied more fully. One cannot fail to see that on the one hand science and technology are developing at a high pace, while on the other opportunities and realistic potential are being created for stepping up intensification of the dynamically developing socialist economy on the basis of scientific-technical progress. Over the last 10-15 years the length of time a product remains in production and in use has decreased to a fraction of what it was, and the times required to create products and put them into production are becoming increasingly commensurable with the time of their functional use in production. Considerable progress has also taken place in the mechanization and automation of production: the number of mechanized shops and automated lines and of fully mechanized and automated sections, shops and production operations in the industrial sector of the USSR increased from 22,400 to 75,000 between 1965 and 1976, while the number of fully mechanized and automated enterprises increased from 1,900 to 5,400 over the same period.¹ Work is being done on a broader scale to set up computerized management systems for various purposes: whereas 414 such systems were in operation in the economy at the outset of 1971, by the end of 1976 there were about 2,659.²

The most recent achievements of science and technology are embodied not only in new machines, devices and materials, but also in the knowledge, production know-how and skill of man--the principal productive force. "... In no social system," L. I. Brezhnev noted at the anniversary ceremony of the USSR Academy of Sciences, "has science so far occupied what I would call such a decisive position in economic and social development as under socialism, not to mention the construction of communism. What science is to us today is a life-giving source of technical-and-economic and social progress and a higher intellectual culture and prosperity of the people."³ Science's leading role lies in the fact that it fully conforms to the Marxist principle of the primacy of production, which itself is becoming scientific as its functions combine with the functions of science. In principle there is no question that it is beneficial to invest in science. To be specific, there is a well-known statement by F. Engels to the effect that "a single fruit of science such as James Watt's steam engine has brought the world in the first 50 years of its existence more than the world spent to develop science from the very beginning."⁴ In the first place, then, science engenders new social needs and indicates ways of meeting them; second, it proposes ways of meeting needs at lower specific expenditures of socially necessary labor. The greater the diversity of the needs, and the more indispensable they become, the more highly developed is the real wealth.⁵ The socioeconomic impact of scientific-technical progress on the country's economy is growing steadily and is becoming so extensive that it is actually becoming impossible to manage without a system of measures organized in a planned way, and that means planning its development and guiding it into the necessary channels.

Under present conditions science and technology are among the largest consumers of the national economy's resources. There is specific evidence of this in the fact that absolute expenditures for scientific research, engineering development, experimental production of new products, and pilot

application of progressive manufacturing processes (not including expenditures from the fund for new technology, from the production development fund and from certain other sources) amounted to 17.7 billion rubles in 1976 (or 4.6 percent of the national income produced), while expenditures to apply measures that come under the head of new technology amounted to almost 8 billion rubles. In that same year the labor force in the sector of science and scientific services numbered 1.25 million persons (or approximately 3.6 percent of all workers and employees in the industrial sector).⁶

This kind of growth in the number of scientists and in the size of expenditures for science and for application of new technology is justified both from the economic and from the sociopolitical standpoint. It reflects society's objective need to speed up scientific-technical progress. But this growth also demonstrates that ever larger resources of the economy have to be called upon to guarantee faster scientific-technical progress. In other words, the resources of the economy are being redistributed to support scientific-technical progress. Yet the possibilities for such a redistribution are by no means unlimited. That is why one of the central problems in improving the system of planned regulation of the development of science and technology is to raise the efficiency and optimize the resources of the economy allocated to this sphere of activity. In our opinion the optimality of distribution of the economy's resources in order to increase the efficiency of social production and to meet society's needs for development of science and technology can be effectively guaranteed only by long-range plans.

In concentrating and guiding all the efforts of the Soviet people toward successful fulfillment of the plans of the 10th Five-Year Plan, the CPSU is at the same time laying the practical basis for solving long-range scientific-technical problems. It is quite obvious that they can be purposively solved and the present-day achievements of science and technology utilized in the interests of the entire society only in a socialist context, in which the improved well-being of the people is the supreme goal of all economic policy.

By its very nature capitalist society cannot set this kind of social task before science and technology. The objective goal and decisive motivation of a capitalist economy lies in the self-growth of value, in appropriation of the surplus value (or profit), and in making the competitive struggle more keen and intense. Thus the two modes of production--capitalism and socialism--create specific conditions for scientific-technical progress, and the application and use of the achievements of science and technology yield different consequences in the two respective systems. Analyzing the economic peculiarities of imperialism, V. I. Lenin wrote: "... Like any monopoly, it (the capitalist monopoly--G. Ya.) engenders an inevitable tendency toward stagnation and rot. When monopoly prices are set, though only for a time, by that same token there is a certain loss of initiative for technical--and consequently all other--progress and forward movement, and the economic possibility of artificially restraining technical progress is perpetuated."⁷

By contrast with the economy of the capitalist countries, the economy of the Soviet state has been guided and regulated throughout the entire history of its development by long-range plans. The first plan, which covered a 10-15-year period and defined the strategies for building Soviet industry and cooperative agriculture, was the GOELRO [State Commission for Electrification of Russia] Plan. At the end of World War II plans were drafted for recovery of the economy and for expanding the scale and increasing the rate of production up to 1960. The plan for development of the USSR national economy up to 1980--the plan for building the material and technical base of communism--has been in effect since 1960.

The need for long-range planning is also dictated by the increasing complexity of the problems involved in utilizing natural resources, whose rates of consumption have risen considerably in the 20th century.

Reality itself demonstrates that only with long-range plans is it possible to coordinate the different directions of scientific-technical progress, to provide for shifts in the sectoral pattern of the economy, to carry out large comprehensive capital investment programs, and to ensure effective long-range development of science and technology.

Experience in socialist planning has confirmed the advisability of defining the outlines of economic development over fairly long periods of time. At the Eighth All-Russian Congress of Soviets in December 1920 V. I. Lenin said: "Do not be afraid of plans that cover a long period of years: without them you will not accomplish an economic reverse...."⁸ V. I. Lenin's instructions concerning long-range plans have now taken on a new meaning because of the change that has taken place in the problems of scientific and technical development and because management and planning have improved. The accelerating rates and highly dynamic nature of scientific-technical progress, which signify a thorough shattering of traditional production methods, progressive changes in the sectoral pattern of social production, complex feedback, and relations between and within industries that are becoming broader and more complicated, as well as the mutual dependence of technical, economic and social aspects make it urgently necessary to have strategic principles in the field of scientific and technical development and comprehensive planning of the future development of science and technology.

The need to improve long-range planning was especially emphasized in the decisions of the 24th and 25th party congresses. L. I. Brezhnev, general secretary of the CPSU Central Committee, has spoken as follows about the drafting of long-range plans for development of the national economy and of its sectors up to 1990: "The time has now come when planning methods need to be improved. This should be based on a more precise study of society's needs, on scientific forecasts of our economic capabilities, and on a comprehensive analysis and assessment of different variants of solutions and of their immediate and long-term consequences."⁹ Consequently, the objective need for long-range planning arises out of the social and economic laws of the

socialist system. It is of paramount importance in this connection to shed light on the complicated methodological question of which specific tasks are to be performed in the long-range plan and what goals that plan sets for the national economy.

What are the distinguishing characteristics of a long-range plan for development of science and technology, and how does a long-range plan participate in making scientific-technical progress more effective? We will attempt to determine these peculiarities and arrange them in a system.

First we should note that in the economics literature long-range plans are not uncommonly referred to as plan-forecasts (this mainly applies to the 15-20-year period). In our opinion the introduction of this term was unfortunate. Clear lines are drawn between forecasts and a plan. A forecast represents only the general outlines of a prospective plan, and is rather material used in preparing the plan. The plan defines in concrete terms the ways and means of the most effective development of the subject it concerns, and a definite system of measures aimed at speedy realization of the tasks that have been set is worked out in the plan.

Second, as those who plan development of science and technology look further and further into the future, there is considerably greater freedom in choosing economic and socioeconomic solutions, and--as a consequence--the plan loses some of its force as a document in which mandatory responsibilities are specifically assigned, and the planning targets are worked out in less detail. What we have said does not at all signify that the long-range plan may be unsound. The variants of development projected in it must be based on a knowledge of objective laws, on an analysis of past stages and data and figures, on a study of the specific conditions and on an assessment of the impact of each of them on the direction and rates of the future development of science and technology. The desire for excessive detail of the indicators worked out may have the opposite effect on the rates, pattern and level of scientific-technical progress.

The third peculiarity of the long-range plan is manifested in the fact that the development of science and technology is probabilistic and stochastic in nature. It is not possible to precisely define in advance the end result of time spent, of physical and labor expenditures invested in achieving that result, and to predict in fully definite and precise terms the technical, economic and social benefits which will be obtained in the future. Sometimes fundamentally new solutions not envisaged in the first rough drafts come about as research and development projects are conducted, or practical achievement of given parameters proves to be more complicated than was supposed. This raises the problem of selecting the preferable variants and of distributing limited resources under conditions of indeterminacy.

One of the basic problems in improving planning is to work out scientific foundations for predicting tendencies in development of scientific-technical progress: providing for the occurrence of fundamentally new shifts in

science and technology, preparing designs of the machines and enterprises of the future, and timely preparation for rapid development of new lines of scientific-technical progress.

The fourth peculiarity of long-range projections lies in the predominance of comprehensive and intersector problems in the development of science and technology over the problems of individual sectors and industries. Planning the development of engineering and technology for a sector or industry is limited to the narrow confines of that sector or industry. As it has been figuratively put by V. N. Kirichenko, "the sector-by-sector approach contains within it a certain danger of 'conservation' of the sectoral pattern and of an orientation toward existing technology and technical equipment."¹⁰ In the present stage of economic development the impact of science and technology on the economy is bringing about an expansion and deepening of intersector production relations and growing mutual dependence among sectors and industries. The extent of intersector and interindustry relations is vividly indicated by the ratio between direct and indirect capital investments in development of a new production operation: for instance, according to available calculations, indirect capital investments in the economy related to the production and consumption of the automobiles of the Volga Motor Vehicle Plant represented 10-11 rubles for every ruble of direct capital outlays.¹¹ This example is convincing as to the need for the intersector approach to planning.

Intersector programs draw into the orbit of planning not only all phases of scientific-technical progress--beginning with basic research and ending with application of the new technology--but also scientific-research organizations and enterprises of other sectors of the economy. This approach to planning encourages the search for the most suitable combination of parameters and factors related to increasing output and raising the technical level and quality of the product, and it promotes optimum distribution of financial, physical and labor resources and efficient utilization of capital investments in all sectors and industries.

There is no question that the intersector approach is also indispensable in 5-year planning. But it pertains in the highest degree to the long-range plan. In medium-term planning it can be carried out successfully on the basis of the methodology of the long-range plan and the results of drafting that plan.

These peculiarities of the long-range plan for development of science and technology predetermine in turn its principal tasks.

One of the most important strategic problems of long-range planning is to work out a unified long-range scientific-technical policy on the scale of the entire country. It is a question of a long-term orientation in the development of science and technology, in which we see, as V. I. Lenin put it, "the general plan of our work, of our policy, of our tactics, of our strategy...."¹² Achievement of a unified scientific-technical policy is inseparably bound up with performance of the principal tasks of CPSU economic

policy. Three key issues in party economic policy were specifically singled out for the coming period at the 25th CPSU Congress: the advancement of basic long-range goals toward which the Soviet economy should orient itself; the sources of growth and accumulated resources which must be called upon for accelerated economic development; and finally, improvement of the economic system, the mechanism for management of the economy, whose responsibility it is to increase the efficiency of social production.

Effective solution of all these problems depends to a considerable degree on orientation toward the goal of enhancing the role of the unified scientific-technical policy in managing the development of science and technology.

The long-range plan is supposed to provide long-term coordination of basic research and R&D, organization of the production of new equipment and its productive application, and the growth of material production. This is a dual process: on the one hand production is constantly setting new problems for science, while on the other science is becoming a factor decisive to the development of production.

V. I. Lenin saw the real possibility for the country's economic transformation in a unification of science, engineering and production. He repeatedly pointed out that science must be related to production, to reality: we must be "certain that our science does not remain a dead letter or a fashionable phrase, but authentically enters into our flesh and blood and completely and authentically becomes an integral part of everyday life."¹³

The long-range plan must provide for effective implementation of the strategic orientation of state policy in the domain of financing science and the optimal pattern of relative expenditures for development of basic and applied research, for development of innovations and for organizing their production. Only a long-range plan can realize the theoretical model of the proportions between the acquiring of knowledge and its practical application.

If we take total expenditures for basic and applied research and also for experimental design work as 1, then the theoretical ratio between investment in the production of new knowledge and investment to assimilate that knowledge in the economy will be approximately 1:12. At the present stage of development of science and technology this ratio is 1:7. The difference between the actual cost ratio (1:7) and the theoretical ratio (1:12) indicates that frequently there are no available capacities in the economy, a lack of room in which to maneuver.

This development of the stage in which new products are put into series production, which is inadequate compared to the stage of basic and applied research in the country, is resulting in underutilization of scientific spadework in the industrial sector and in rapid obsolescence of the results of research, so that the rates of scientific-technical progress are held back.

It is the purpose of the long-range plan to correctly determine and reflect the economic efficiency of the direction that has been chosen for the progress of science and technology. This task is imperative because all directions do not equally provide for higher efficiency of social production, and therefore they differ substantially in the costs required to carry them out. The content of every group of directions of scientific-technical progress was elucidated in the report by A. N. Kosygin entitled "Main Lines of Development of the USSR National Economy in the Period 1976-1980" and was stated in concrete terms in the scientific-technical assignments. The latter reflect on the one hand the long-range prospects for development of science and technology and make provision for spadework to be done on fundamentally new technology, while on the other they define scientific-technical development in the current 5-year period on the basis of the socioeconomic tasks, accumulated resources and spadework represented by scientific-technical developments which have been completed and prepared for application.

In analyzing the pathways of the introduction of the achievements of science and technology, we can outline the following general directions of the development of scientific-technical progress:

- i. a rise in the level of electrification of production and of efficiency of energy utilization; further development of nuclear power, the building of economical power transmission lines over very long distances, and broader introduction of electrotechnological processes;
- ii. improvement of traditional materials and creation of new and more economical materials, application of the newest methods of strengthening materials, expansion of the assortment of materials used in the national economy; uniform impact of technical innovations on all sectors of the economy and elimination of the differences that still exist in the equipment-worker ratio and in the level of the organization of work in all sectors and spheres of the economy;
- iii. broad introduction of progressive, especially continuous, manufacturing processes (thanks to the use of various kinds of catalysts and enzymes), and of chemical and radiation technology, and the use of electronics for automatic control of manufacturing processes;
- iv. development of fundamentally new technical equipment for gathering, storing, retrieval, processing and transmission of data in the form of high-speed electronic computers, and broad introduction of computers into management processes;
- v. rationalization of the organization of social production and of management.

The drafting of the long-range plan and its transformation into a standing program of social and economic development open up large opportunities for development of foreign economic relations and, above all, for intensification

of the economic integration of the CEMA member countries. Even today we can note that cooperation in the domain of planning activity and, to be specific, the coordination of national economic plans practiced by the CEMA member countries, is making it possible to combine efforts applied to developing the national economies with common efforts to strengthen the economy of the entire socialist commonwealth. It is in this way that the necessary coordination is achieved in developing interrelated and complementary economic sectors of the various countries.

At first the coordination of plans consisted primarily of mutual coordination of lists of commodity deliveries, and the influence on production was mainly indirect--through the distribution sphere. This is no longer enough. The need for joint examination and solution of the problems related to the development of science and technology, to creation of efficient large-series production on the basis of intergovernmental specialization and cooperation, and to concentration of the physical, financial and labor resources to perform economic tasks adopted in common, necessitated that scientific-technical and production programs themselves be reconciled. On the basis of forecasting and coordination of long-range plans the CEMA member countries will be able to agree on directions and define specific measures to solve the major problems of economic and scientific-technical cooperation and to conclude long-range multilateral and bilateral agreements.

The long-range plan will make it possible to improve the scientific soundness of 5-year plans and to enhance their role in regulating economic activity and all economic relations in the economy. This will in turn create conditions for the drafting of optimum current plans and for fuller incorporation into those plans the potential for making scientific-technical progress more efficient which is lying unused within economic entities.

Another thing that makes long-range planning indispensable is the need for more rational utilization of labor resources. The number of specialists trained, their specialties and the schedule of their training are determined by the national economy's need in a period that lies beyond the 5-year period covered by the plan.

These are the basic peculiarities of the long-range plan for development of science and technology and the principal problems it solves. But at the same time we should note that in spite of all the complexity of these problems and a certain degree of risk in planning for the future in broad terms, the urgent requirements of the practical development of science and technology necessitate continuous work in this direction.

FOOTNOTES

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4. Marx, K., and Engels, F., "Sochineniya," Vol 1, p 555.
5. Ibid., Vol 46, Part II, pp 212-213.
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10. Kirichenko, V. N., "Dolgosrochnyy plan razvitiya narodnogo khozyaystva SSSR" [Long-Range Plan for Development of the USSR National Economy], Moscow, Ekonomika, 1974, p 54.
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12. Lenin, V. I., Op. cit., Vol 45, p 405.
13. Ibid., p 391.

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STANDARDS EXPERT DISCUSSES QUALITY CONTROL

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 1 Aug 79 p 2

[Article by A. Glichev, doctor of economic sciences and director of the All-Union Scientific Research Institute for Standardization: "Quality Control: The Main Link in the System"]

[Text] The work of setting up comprehensive product quality control systems is being carried on with increasing vigor at enterprises. According to data of regional agencies of the State Committee for Standards, the system is already in operation at 4,000 industrial enterprises. Several hundred more plants and associations are in the last phase of the work, and once the KSUKP [comprehensive product quality control system] is officially registered, they can report its introduction. More than 30,000 enterprises have now undertaken to develop a system.

The measures adopted in accordance with the decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Improvement of Planning and Strengthening the Effect of the Economic System on Higher Production Efficiency and Quality of Performance" will undoubtedly help to enliven this work. Economic methods and levers will be used more consistently in orienting production collectives toward improving their product in every way. It is here that the KSUKP will furnish them the most effective assistance.

At present the number of products of our industry that bear the state Quality Emblem has now reached 70,000. In the first half of the year alone more than 17,000 product items qualified for the honorific symbol, and the output of these products increased 25 percent. The share of products in the superior-quality category in the total volume of production is 12.2 percent.

The role of comprehensive systems in marking those achievements is indisputable. For example, at the Podmoskov'ye firm, which manufactures children's woolen fabrics, the system has been in effect since last year. Technological and work discipline has increased considerably at the enterprise, and unproductive expenditures have dropped. A fourth of the firm's output has been graded superior in the certification procedure, the manufacture of fabrics for export has been organized, and labor productivity has risen 7 percent. At the Frunze Electronic Computer Plant imeni 50-Letiye SSSR, where

the KSUKP has been in operation only a year, new product development time has been cut in half, rejects within the plant have been greatly reduced, and claims against its products have been entirely eliminated. The share of products bearing the state Quality Emblem now exceeds 63 percent of total output.

What can be said about development of the comprehensive systems in individual industries and republics? As with anything, here again there are leaders and stragglers. The instrumentmakers are in the lead at present. In this industry there is not a single collective which has not undertaken to set up a KSUKP. Indeed three-fourths of them have already performed this task and are working to develop their systems further. In the USSR Ministry of Meat and Dairy Industry 90 percent of the enterprises are developing a system, and two-thirds have already introduced it. In the USSR Ministry of Ferrous Metallurgy the respective figures are 55 and 38 percent of the enterprises, and in the Ministry of Machine Tool and Tool Building Industry they are 57 and 26 percent, respectively.

The basis for the success of these ministries is that they were able to organize effective planning of the projects, and the head and base organizations provide effective guidance to enterprises working out the system, extend them effective aid, and monitor progress closely.

All industries have unfortunately not been able to organize the work so rationally. Which is why the results there are noticeably worse. The USSR Ministry of Chemical Industry, Ministry of Tractor and Agricultural Machinebuilding and Ministry of Construction Materials Industry are lagging behind; approximately one-third of their enterprises have undertaken to develop a KSUKP, and only between 5 and 7 percent have introduced such a system.

The leading union republic is Belorussia; almost two-thirds of the republic's enterprises have recorded introduction of systems. They include the BelavtoMAZ associations, the Minsk Tractor Plant and the Borisov Plant for Automotive and Tractor Electrical Equipment, and other enterprises well known in our country. Last year alone the relative share of output in the superior-quality category increased in the republic from 16.5 to 20.7 percent. Considerable progress was made in introducing KSUKP in RSFSR, the Ukraine, in the republics of the Soviet Baltic Region, and in Moldavia. The republics of Transcaucasus and Central Asia have been less effective in this direction.

The planned foundations of standardization need to be strengthened and supervision over introduction of KSUKP improved in order to broaden the front and intensify the work of adopting comprehensive systems. The procedure which went into effect last year for registering and recording the comprehensive systems should in our opinion help to optimize this complicated process. Its essence is that the base organizations of industries and regional agencies of the State Standards Committee now register the completion of individual phases in setting up the system. What does this do? First, it

puts an end to the haphazard situation which previously existed both in industries and in certain regions. Second, it provides an effective means of supervision and of providing aid concerning methods: mistakes are corrected in the earliest stages of the work, and this raises the scientific-technical level and effectiveness of the systems worked out.

The figure of 4,000 systems which had been introduced is, of course, impressive. Yet this is the result of the efforts of less than 10 percent of the country's industrial collectives. That is why the importance of methods guidance is not diminishing, and the quality of this guidance is still an urgent matter. In practically all republics and a majority of industries there is an intention to complete the principal introduction of the KSUKP at enterprises before the end of the 10th Five-Year Plan. Only a year and a half is left, and there is still much to be done.

We should note that constructive changes have recently taken place in the activity of head and base organizations. An ever greater number of industrywide institutes have become aware of their leading role in the large-scale introduction of comprehensive systems. For example, specialists of the base organization of the Ministry of Machinebuilding for Animal Husbandry and Fodder Production--the Moscow Head Project Planning and Design Technology Bureau--designated support enterprises for development and introduction of the KSUKP, conduct thorough expert evaluations, coordinate and register technical assignments and working designs of the system in the group of enterprises assigned to them, supervise this work in a planned way, and extend practical aid to developers when necessary.

There is also something to be learned from the head organization of the USSR Ministry of Meat and Dairy Industry--the All-Union Scientific Research Institute of the Meat Industry. The institute's specialists prepared industrywide documents in good time which defined the structure and procedure for introducing and recording the KSUKP at enterprises. They were among the first to develop standard designs of the system. Rather good work has also been done by the Central Scientific Research, Planning and Design Boiler and Turbine Institute imeni I. I. Polzunov, which is the head organization of the Ministry of Power Machinebuilding, and the RSFSR Scientific Research Institute of Local Industry, which is the head organization of the RSFSR Ministry of Local Industry.

But typical shortcomings in the work of the methods centers of the various industries have not in all cases been overcome. Two circumstances are particularly disturbing: the slack supervision over introduction of systems in a number of industries and the low rate of development of standard designs of KSUKP. It is after all these model designs which are to ensure that the system is introduced promptly and with an adequate knowledge of methods. The delay in preparing them will hold back projects in the industry and frequently results in working designs at enterprises which are half-baked from the scientific standpoint.

It is not uncommon for documents which the developers have cleared and registered in the base organizations to be at odds with the requirements of the basic intersector recommendations and of the State System for Standardization. For example, agencies of the State Committee for Standards have refused to record certificates of introduction of KSUKP of a number of enterprises of the Zapryba All-Union Production Association. They noted the low level of guidance in the realm of scientific methods provided by the base organization of the association--the TsAKTB [not further identified] of Zapryba.

As a result of special checks state inspection agencies last year found technical assignments, working designs and certificates of introduction of KSUKP to be improperly registered at 41 enterprises of RSFSR, at 28 enterprises of Latvia and at 6 in the Ukraine.

The work of setting up a scientific methods base that ensures unity in building the comprehensive systems and a clear procedure for their introduction and registration is now being completed. The relevant scientific recommendations, prepared by specialists of the All-Union Scientific Research Institute for Standardization, are being prepared for publication. In the next 5-year period the plans call for large-scale introduction of comprehensive systems at enterprises of agriculture, transportation, communications and the service sphere. This work has already begun, it is in the stage of research and experimental testing.

Specialists, of course, understand that it is practically impossible under the conditions of present-day production to altogether solve the problem of quality within the confines of the enterprise, even when the KSUKP is highly effective. It does not extend over project planning and supply organizations, nor supplier enterprises, nor transportation organizations, operating organizations and other organizations. For that reason the problem of the moment is now to work out quality control systems at the level of the industry and at the level of the economic region. Industrywide systems have already been undergoing development for a number of years in such industries as electrical equipment, instrumentmaking and electronics. Regional quality control systems are being actively set up in Latvian SSR, Dnepropetrovskaya Oblast, Berdyansk, and Mytishchinskiy Rayon of Moskovskaya Oblast.

Quality control systems being developed at various levels and on a variety of scales will become integral components of the Unified State Product Quality Control System, a highly complex nationwide system which will make it possible to guarantee planned and comprehensive utilization of the Soviet economy's capabilities for attainment of constant high rates of improvement of product quality.

The basic principles of this system have been worked out by the scientific collectives of the State Committee for Standards, USSR Gosplan, the USSR State Committee for Science and Technology, and were approved last year by the State Committee for Standards. These principles provide that the KSUKP is the main link and foundation of quality control work. Success in solving the problem of quality in the national economy will depend to a considerable degree on how effectively this unit functions.

LACK OF MATERIALS-HANDLING EQUIPMENT CITED

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[Article by A. Zertsalov, chief engineer of the Special Design Bureau for Warehouse Equipment and for Mechanization and Automation of Warehouses of the Ministry of Heavy and Transport Machinebuilding, and G. Shishkin, editor in chief of the journal PROMYSHLENNYY TRANSPORT: "Manual Labor on the Backs of Machines--Equipment for the Warehouse"]

[Text] The modern warehouse is a highly mechanized multistory complex equipped with stacker cranes, racks, product distribution systems, and computer equipment for accounting and management. It is complexes like this, whose operation requires a minimum number of people, which are needed today by industry, by enterprises in the system for supply of materials and equipment, the State Committee for Supply of Production Equipment for Agriculture, by trade.... Not only do they make hundreds of workers available and guarantee the quality and preservation of manufactured products, but they also have a vigorous effect on the pace of production. It is their broad capabilities which make it possible to manage inventories of materials, semifinished products, and parts, to replenish these inventories on an ongoing basis, thereby making the load on equipment more uniform and promoting more efficient use of production space and worktime. For instance, just one multistory warehouse at the ZIL Motor Vehicle Plant made it possible to free more than 15,000 square meters of space and to speed up loading and unloading 2-2.5-fold. But unfortunately there are not so very many such examples we can cite. At present people must only dream about such warehouses. Why?

First of all there is a shortage of the necessary equipment. At best the demand for it is being met at a level of 30-40 percent, and the assortment is not extensive. If we take stacker cranes, without which one cannot even talk about warehouse mechanization, the situation is fair with only 2 of the 35 items envisaged by the State Standard: only one-third of the demand is being met for 11 others, while other types of cranes are either being manufactured in token numbers or they are not being made at all. Moreover, these pieces of machinery are mainly being produced with manual controls. Nor is industry producing economical prefabricated warehouses that can be set up quickly....

The whole trouble is that today there is no organized approach either to the development or to the production of such equipment. According to the most modest estimates, mechanization equipment is now being manufactured by more than 20 ministries and departments, including some outside machinebuilding. And how many organizations are independently engaged in designing it! Aside from the SKBS [Special Design Bureau for Warehouse Equipment and for Warehouse Mechanization and Automation] of the Ministry of Heavy and Transport Machinebuilding, there are PKIAM [Project Planning and Design Institute for Automation and Mechanization] of the Ministry of Tractor and Agricultural Machinebuilding, UNIPTIMash [Ul'yanov Machinebuilding Institute of the Ministry of Automotive Industry], Orgsnab [not further identified] of USSR Gosnab, VITstroydormash [All-Union Institute for the Technology of Construction and Road Machinebuilding], VNIIMS [Institute for the Organization, Economics and Technology of Material and Technical Supply of Agriculture] of the State Committee for Supply of Production Equipment for Agriculture, and so on. Warehouse equipment is also developed at enterprises themselves.

This scattering of forces is bad in and of itself. First of all, the purposive organization of the industrial base becomes difficult, and it has no prospects for development. It is sufficient to say that centralized planning now covers approximately but one-half of the ministries and departments in which warehouse equipment is manufactured. This situation is also hindering technical progress, the conduct of a unified policy, and large-scale implementation of the principles of interchangeability and creation of multistation equipment. Research done by specialists of the SKBS of the Ministry of Heavy and Transport Machinebuilding indicates that at the present time there are about 100 different stacker cranes alone, though the list of products envisaged by the State Standard is sufficient for enterprises in all industries with rare exceptions.

Second, it is the rare industry capable of furnishing itself the entire set of equipment. All kinds of improvisations inevitably make their appearance in that situation. An analysis showed that the level of mechanization and automation of warehouse operations, even where attempts have been made to do something along this line, are manifestly below what is possible at the present time.

And third. Warehouse equipment manufactured on the subsistence principle is distinguished by its high cost, its low technical level and its low reliability. Experience has been convincing: unless they have equipment of higher reliability than other materials-handling equipment, the multistory warehouses themselves will hardly be efficient. Yet in future they are to have the largest relative share.

We also need to emphasize that in spite of the great interest in such complexes, research work is not being done in any of the industries. This is altogether understandable. Organization of a wide range of research requires considerable staff and experimental facilities. All of this is, of course, not within the reach of every industry. That is why a simplified

approach is often taken to mechanizing warehouse operations. Even today many people believe it is enough to install a stacker crane, and the problem is solved. But, as reality has shown, it is not only the equipment itself that determines success; it is very important to properly organize the work of the storage facility, to assign it its proper place in ongoing production, to link it to manufacturing processes and to the movement of materials within and between shops. Otherwise the warehouse, even if automated, will prove to be altogether inefficient. But this task is within the power of only specialized organizations, for which mechanized and automated complexes are the main line of operation, and not a sideline. No offense, but most of the organizations indicated above are not up to that.

According to our calculations, it would be sufficient to augment the SKBS of the Ministry of Heavy and Transport Machinebuilding by 500 persons to account for a set of projects to create warehouse equipment for the entire national economy. This would moreover make a large number of designers available in various industries. Strengthening a single central organization would help to eliminate the disharmony which is no longer tolerable in solving the problems of storing and distributing materials, parts and assemblies.

We have also made these estimates: centralization of the manufacture of the equipment would alone double the volume of its output at the very same cost. Thanks to broader application of progressive shapes of rolled products in designs of containers and racks, metal consumption would decrease by a minimum of 15-20 percent, which in 1 year will make it possible to save as much as 100,000 tons of metal. Moreover, warehouse equipment will be delivered only in sets, and that is very important. After all, it is no secret that there are cases when one enterprise has stacker cranes but no racks, while another has the racks but no cranes, and a third has both but no one to install them.

In short, the present level of the creation of equipment for warehouse mechanization is not meeting the demands of the economy. In our opinion the discrepancy can be eliminated only through a thorough reorganization of the research, design and industrial facilities. It would seem that the optimum variant under the present conditions is to set up an independent subindustry in which organizations and enterprises for the research and development, manufacture, installation, and possibly even servicing of warehouse systems would be concentrated. To speed up this effort the ministries and departments most concerned (there are about 20 of them) could transfer some of their people employed in developing and manufacturing warehouse equipment to the Ministry of Heavy and Transport Machinebuilding, which has been designated the head ministry for warehouse problems.

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